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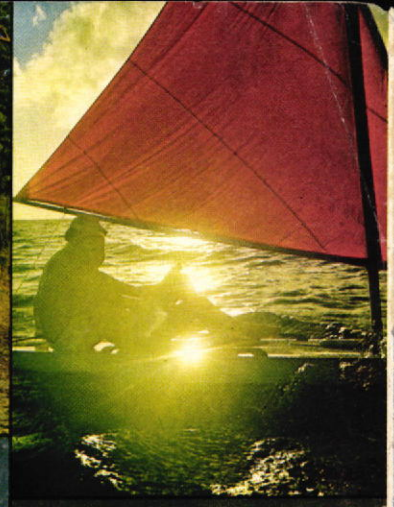

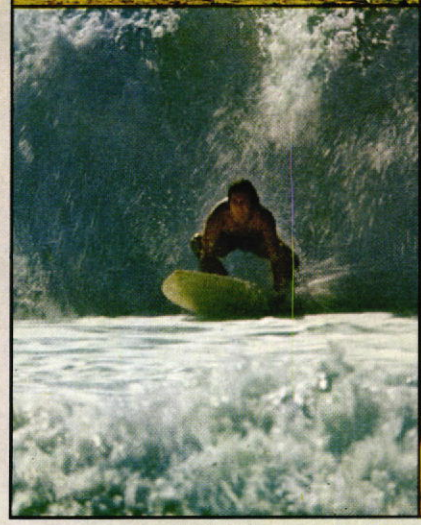

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cycle guide

VOL. 8 NO. 9 SEPTEMBER 1974

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Cover: The Kawasaki 750, the Suzuki Exacta, the OSSA Phantom, and the Yamaha 650 got together one day to discuss what they were going to say about the *Cycle Guide* staff. Marc Madow photographed their scheming.

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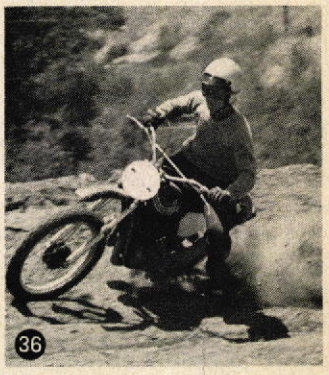

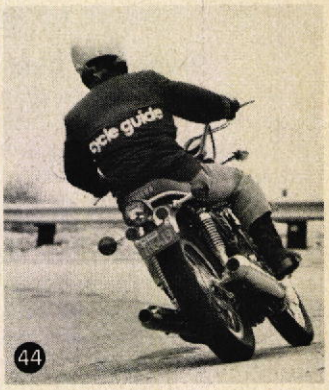

KICKSTAND

Dear Mr. Freshwater

It seems that you know very little about Kawasaki 500s. I will accept your challenge when you put over 50,000 miles on your Suzuki's original crankshaft, do a ring job, and still turn 13.00 without the help of expansion chambers. That will only make it fair.

Karl Rohrer
1057½ Lafayette St.
Houma, Louisiana

Well Hello, Mary Lou, Good-bye, Kaw

I would like to respond to Mr. or Ms. Freshwater's challenge in the July "Kickstand" column. I have a 1970 Kawasaki that meets all of Freshwater's stipulations. If he or she would care to meet me in Denver this August, I will be most happy to race—and beat—Mary Lou.

John C. Reed
8504 Magnolia Dr.
Lanham, Maryland 20801

Hitching A Ride

I am prompted to write this letter because of an experience I had on my last run to Detroit. I am a truckdriver *and* a motorcyclist, so I don't feel biased.

As I was returning across Illinois, I noticed a motorcycle catching up with me. To my dismay, he got about seven or eight feet behind the trailer and hung there. He, of course, was trying to beat the wind by slipstreaming, but this is a very dangerous thing to do. What if some flake had dropped anchor in front of me without warning? I would have had to stand on the brakes, and the motorcyclist probably would have ended up under the trailer—which is a rotten way to end a trip.

My suggestion to those who tour on motorcycles is: If you want to beat the wind, use a fairing or windshield; just don't use a truck or even a car, because this is a good way to kill yourself.

Please print this. There have been far too many cycle riders killed this way, and the world becomes poorer for the loss of each of them.

Dale Duer
Pella, Iowa

Defeating The Winner

I just received your July issue, and I am sort of sad and sort of glad. Glad because Yamaha blew off everybody at Imola and Kenny Roberts was high scorer at the Match Races, and sad because the FIM has banned all TZ700s from the Formula 750 series. Does this mean that the 700 can no longer race in Europe and America simply because there is no street-legal version?

It seems that a couple years ago, I saw a 750 Yamaha four-cylinder water-cooled two-stroke street bike on the cover of *Cycle Guide*. What happened to it? Wouldn't this be a street-legal version of the TZ700? Also, I understand the FIM has decided to up the minimum displacement for Formula 750 to 450cc. The only bike that will be left out is the Yamaha TZ350. Why? It looks like they just can't stomach a 350 Yamaha—which is as reliable and almost as fast—destroying all those 750s. In your "Report from Japan" you say that there is a new Suzuki water-cooled square four that they are going to race in the 500 class. Where is the street version of this thing?

From what I have read, it seems that Yamaha has invested more time, money, and interest than anyone else. Since they have the fastest and most reliable bikes and a whole mess of damn good riders, it seems only fair that they should win most of the time.

Brian Vangor
Yonkers, New York

The TZ700 can still race in Europe and America—but not in Formula 750 events sanctioned by the FIM. For this reason, many European promoters and the AMA have shrugged off the FIM sanctions at their road races so the Yamahas can run. Next year the AMA may require that only 25 units (they now require 200) of any bike need to be manufactured in order to be legal. That will mean more competition for Yamaha from Harley, Suzuki, Kawasaki, and maybe Honda and some of the European marques. Meanwhile, Yamaha is reportedly going to release a street version of the 700 abroad so the FIM will homologate it. And so far, the 350 is still legal. A TZ350 won the Formula 750 event at the Isle of Man.

Yamaha has invested time, money, and interest in road racing, both here and abroad. They have participated in road racing more than any other manufacturer. They have stayed closer to the intent of the rules than most of the competition in this country. And in doing so, they have provided privateers with competitive machinery and given the unsponsored riders a chance that they never would have had otherwise. Don Emde won Daytona in 1972 on a comparatively private Yamaha (it had no factory backing), and this year Steve McLaughlin and Dave Aldana (for example) climbed on private Yamahas and started beating many of the factory riders.

The AMA's solution—to require only 25 of the racing model—would allow more factories to get into AMA National road racing, but it would hurt the privateer who has been given a chance to ride competitive machinery due to the availability of 200 TZ700s to the public.

The Suzuki 500 you mentioned is a

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THE HONDA REPORT

September, 1974 HR #9

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Honda Sweeps Clean at Carlsbad with 125cc, 250cc and Open Class Victories.

At the Carlsbad, California Raceway recently, Team Honda won the 125cc, 250cc and open class events – the first time any single factory team has ever taken all three classes in one meeting. Team Honda rider, Rex Staten, rode to victory in both the 250cc race and the open events. Marty Smith completed the sweep with a 125cc first. Winning bike in all three races was a Honda Elsinore.™ Honda riders also took second and third in the 125cc class.

Honda TL-125's Capture Kids' "A" Class First and Second Place in Big Bear Trials.

The Eighth Annual Big Bear Two-Day Trials was held recently. This California event is held in the mountains at a 7,000-foot level, and to add to the challenge of it all, the temperature was a teeth-chattering 28 degrees. But it was great fun just the same. In the Kids' 125cc "A" Class Honda TL-125's earned a first and second place. This is probably a unique situation in motorcycle competition – where the same machine can be used by youngsters and seasoned competitors alike – from the two winners in this particular event, Robin Tolleson and Mike Bernbaum, to, say, a champion rider like Sammy Miller.

Honda High-Visibility Safety Vest Gains Popularity.

Honda's dedication to motorcycle safety has been underscored by promotion and wide acceptance of the High-Visibility Safety Vest, according to a recent study conducted by a West Coast research firm. The vest, which is being worn by motorcycle riders, youngsters, senior citizens – anyone at all concerned with safety – reinforces Honda's concern to implement motorcycle safety. The vest, which is made of bright nylon mesh and Scotch-Lite® reflecting trim, affords high visibility during the day and high reflectivity at night. The Honda High-Visibility Safety Vest is available at most Honda dealerships.

Motocross Takes on a New Dimension.

Call it a third dimension, if you will. Or a third wheel. Motocross racing in Oregon recently saw the introduction of a brand-new class, when a group of 'crossers competed on Honda ATC® 90's. These three-wheel machines are famous for their ability to go just about anywhere, but this is possibly the first instance of ATC's being used in an official MX championship race. Perhaps the category will catch on in motocross events around the country.

The ATC 90 and the TL-125 are for off-road use only.
"K" numbers in Honda model designations indicate model changes.

good example. The rules for the FIM's GP classes (50, 125, 250, 350, and 500) don't require that a certain number of the racing bike be produced. That leaves the privateer out of the question unless he rides a production racer—which at the moment means a 125, 250 or 350 Yamaha. He doesn't get a shot at one of the factory multis, but Yamaha production racers are just about as fast. There is not a 500 Yamaha production racer, so only factory riders have a chance in the 500 GP. What it comes down to is: If you are a privateer, you usually don't win. And if you are a privateer, and don't ride a Yamaha, you can't win. That's bad for riders who don't want to ride what everyone else rides. But Yamaha is the only factory that has given the privateer a chance at all. Could it be that they have been too successful? . . . ed.

Kawasaki Kwestion

In the table of contents of your June issue you seem to indicate that Kawasaki has made several four-strokes before the Z-1 903. Is that so?

Dick Sherman
Boston, Massachusetts

You betchum. Although the Z-1 was often called Kawasaki's first four-stroke, it wasn't at all. Before the Z-1 was ever conceived, they were making a 650 ohv twin in several models to compete with the British 650s. The W-1 and W-2 (the numbers indicated the number of carbs) were very similar to the pre-1963 BSA A-10 twins. The W series ceased being imported into the States about 1969, but it still thrives in the Japanese market. Even before the W series was built, there was another Kawasaki four-stroke, the 250cc SGT, a single that sort of resembled the old BMW R26, but without the driveshaft. It disappeared in about 1965, after about a half-dozen were imported. There may have been even more that we don't know about.

Meanwhile, Kawasaki is working on more four-strokes. The Z-2, a 750cc version of the Z-1 may appear here, since it's already available in Japan. And rumors of a "Lobster" persist. The Lobster is alleged to be a four-stroke single of around 400cc. Ask us about Honda two-strokes sometime . . . ed.

The Sporty

I was quite disappointed in your test of the Sportster (July). A lot of your conclusions and statements seem misleading or downright unreal.

I have owned two Sportsters, the first being a '68 CH. It ran faithfully and comfortably for 71,000 miles (with the original clutch cable and plates). When I sold the bike it would still get 45 miles to the gallon and 1500 miles to a quart of oil.

My second Sportster is of 1973 vintage. I replaced the seat with the "all model seat." My new bike has 20,000 miles on it, and I have only replaced the tires, points, plugs, and chain once each. These parts are of much better quality than in the foreign machines. Goodyear tires, Diamond chain, and Champion spark plugs are hard to beat.

My Sportster is not an exception in town, but sure seems to run a whole lot better than yours. If your Sportster won't run over 5500 in third or high gear, you must have had a golf ball in the carb.

My 1973 will run 8000 in third and 7000 in high uphill and into a headwind.

My '68 sold new for $1750, my '73 sold new for $2200. I made the trade with my dealer for $625. Since he cannot get enough new models, he has offered me $2300 to buy my '73 back. But I won't do it because they are very hard to replace. I'm going on my sixth year without one dollar of depreciation and 90,000 trouble-free miles.

A motorcycle rider

To Have

I just finished reading "The Desert: To Have and Have Not" (July) and had to write. I have been reading motorcycle magazines for seven years and feel not only that these were the best pictures I've seen, but the writing is a most significant statement of what riding in the desert is all about.

Lee Stanley put into words what I've been trying to say for a long time. I just hope people on the other side of the fence will read the article and gain a better understanding of what the desert means before it is too late.

Peter Havens
North Hollywood, California

Swelling Cylinder Head

I read your comparison of the Honda CB200 and the Yamaha RD200, and I enjoyed your detailed reporting of the facts. However, it is a matter of choice as to why one chooses a particular motorcycle. I owned a 1974 Yamaha RD200 and drove it very hard and had no problems with it the entire time I owned it. Its mileage was nothing to brag about and driving it around was tiring because of a compelling feeling that I had to rip and race instead of taking it easy; it's just a feeling one has when they are on a two-cycle Yamaha. I thought the handling was far superior to the Honda product I owned before. I also thought that the styling was better than the CB200's.

One of the main reasons I purchased the RD200 over the CB200 was price. All motorcycle magazines I have read quote suggested retail prices that are so far from the actual price that I wonder what's going on. In my area, Honda's prices are far in excess of Yamaha's. In Dover, Delaware, the price of a CB200 is $1095 and an RD200 is $913.

I just traded my RD200 on a TX650A and I paid $1859. Maybe when Yamaha starts cutting into Honda's road-bike market this will take some of the swelling out of Honda's head.

J. Howard Webb
Chestertown, Maryland

There are several possible explanations for the difference in prices. One is that the prices we print don't include setup or other miscellaneous charges. Another is that due to ever-increasing labor and material costs in Japan, the prices are rising so fast that they are much higher by the time the test reaches you. A third possible explanation is that dealers, faced with a large demand for machines and a small supply, are raising the prices themselves. We only print the suggested *retail price; it's really up to each individual dealer to charge what he feels the traffic will bear . . . ed.*

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J. Inoff
USA

That Changes Everything

In your July issue I spotted a mistake in your Honda-Yamaha comparison. The cover shows that the left dust cover for the clutch lever is missing on the Honda.

I own an XR75 and do some motocross racing. Will you please do a comparison on the XR75 and YZ80.

David Waite
Opalocka, Florida

The CB200 Honda has only one lever dust cover, that being the one on the front disc brake lever. That lever looks different than the clutch lever, so even if there were no dust cover on the brake, or if there was *a cover on the clutch, the levers would look like a mismatched set. We'll do an XR75-YZ80 test as soon as we hire a mini-staffer . . . ed.*

Adventurous

I recently purchased the July '74 issue of *Cycle Guide* and read with much interest your comparison test between the Honda CB200 and the Yamaha RD200.

The only fault I can find with the article is: Why wasn't the Suzuki 185L Adventurer tested along with the Honda and Yamaha? Even though I am a Suzuki fan and slightly prejudiced, that doesn't alter the fact that the Suzy would have been a perfect bike to include with the other two. Are there any plans for your magazine to test this bike in the near future?

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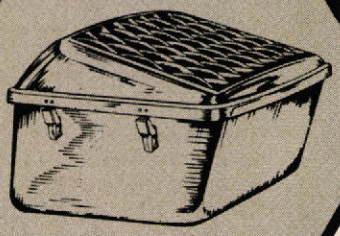
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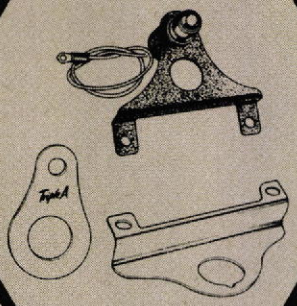
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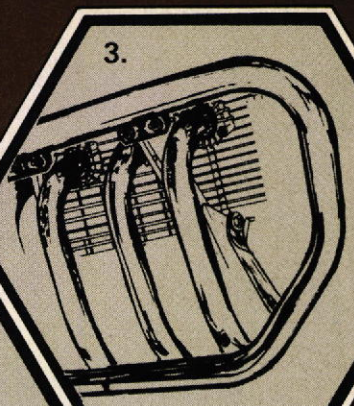
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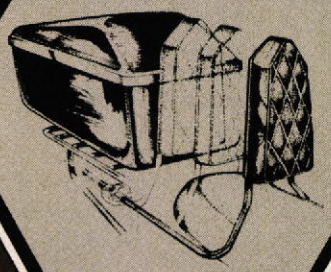
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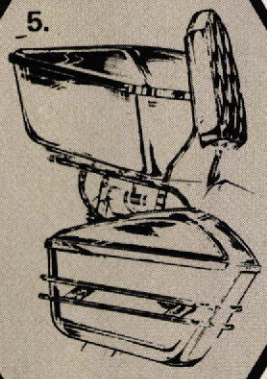
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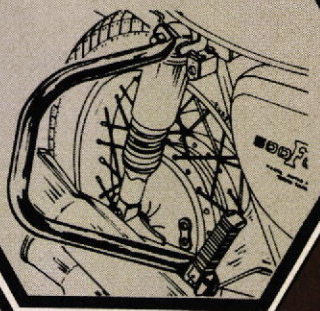
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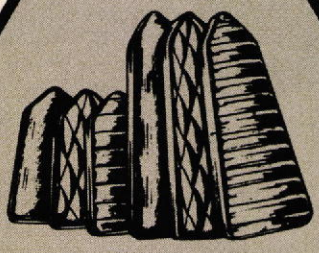
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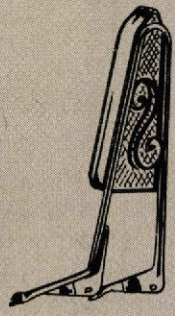
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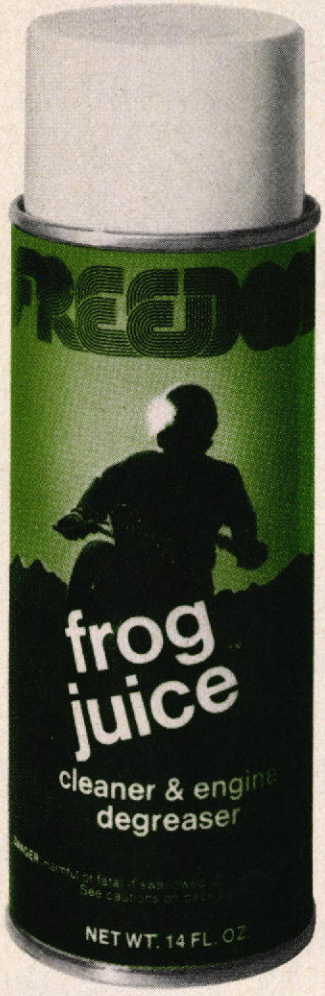

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In these days of gas shortages it seems to me quite logical to test this bike because it was designed as a basic commuter.

William E. Mace
Blaine, Minnesota

The Adventurer wasn't included because we couldn't get one from Suzuki. It was our original intention to test all three, and Suzuki promised to give us a 185 on the date we requested. But when the time came, there weren't any 185s available, so we only tested the Yamaha and Honda. We have no definite plans to test the GT185 in the near future . . . ed.

It Just Keeps Getting Newer

You people must think that we, the readers, are pretty dumb! Right, readers?

(*Right,* boss!)

Now, I may not be as smart as Messrs. Schwartz, M.E. and Dawson B.S., E.E., UVa, who appeared in the November '73 issue, but I'm intelligent enough to know when *Cycle Guide* is trying to pull a fast one on us readers. Right, readers?

(*Right,* boss!)

And I may not be as sharp as Mr. Mara Natha (Gee, what a weird name!) from Houston in the May '74 issue, who immediately picked up on the "foul language and some of the female bodies being advertised" (I should have problems like his!); but I *am* sharp enough to see you guys trying to slip something by us readers. Right, readers?

(*Right,* boss!)

Now I don't mind a few technical errors once in a while; I think your writing style is good; I'm just *crazy* about your new typeface (With legislation being presented that could seriously hamper popular motorcycling, some people are worried about the type in the magazine!); and I even think that your comments to the letters to the editor are cute (It's a shame so many people take them seriously.). But you have gone too far this time!

What I am referring to is this: You have the word "NEW" printed over this month's title on the front cover. But you also have it printed over the title of last month's issue! C'mon, you guys, who are you trying to kid?

(*Right,* boss!)

Shut up; not yet.

How can *Cycle Guide* be new this month if it was new last month? I see the editorial staff is the same for both the May and June issues. Or does this "NEW" mean that this issue is the new June issue? If so, where is the old June '74 issue? I never saw it.

How long did you think this ruse could be kept going? You should have known that it would never have worked for long.

(*Right,* boss!)

Not *yet!*

So I want this rectified immediately. Not

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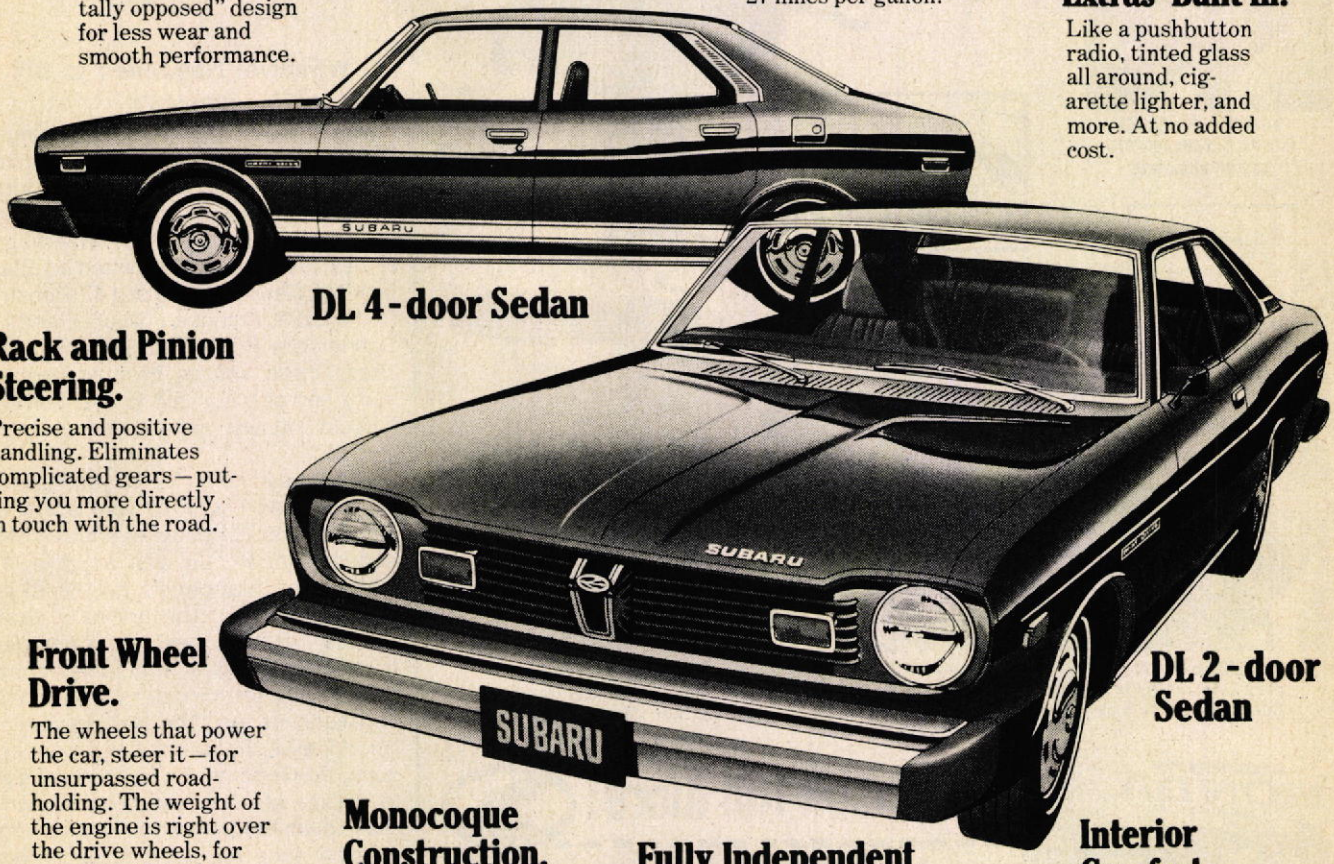

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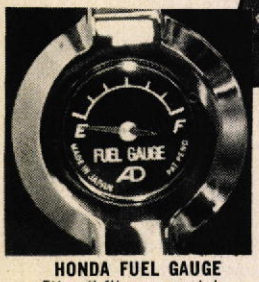

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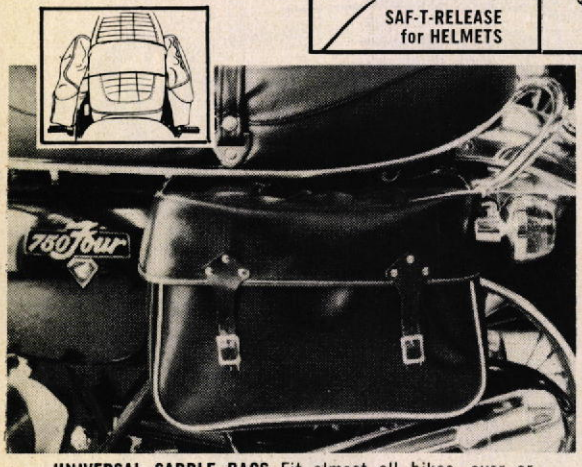

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yesterday. Not tomorrow. Right now! If I see the July '74 issue with the word "NEW" over the title, you guys are going to be sorry. Right, readers? . . . Right?

Oh, for Pete's sake. RIGHT, READERS?

(Uh, *right,* boss!)

Walt Buchman
Bad Kreuznach, Germany

We're not sure how it happened, but we have some theories. Perhaps the first "NEW" appeared by accident (one of those technical errors you mentioned). After that somebody must have decided that to remove the "NEW" would make it appear that the newer issue was actually old. So, since each succeeding issue is the new one, it must be labeled "NEW," which it is. Maybe someday it will say "NEWER" and then "NEWEST" . . . ed.

Whatever Happened to Bill Wright?

Without a doubt, I enjoyed reading the June issue of *Cycle Guide* more than any cycle magazine in many years, including your own previous issues. What made this issue so special? Three writers, John Hurley ("Whatever Happened to Blackjack Matthews?"), Richard C. Renstrom ("The Great American Chief"), and Ron Schneiders ("The Way They Were"). These three articles brought nostalgic memories of days past to me. For once I could identify with all the principals involved.

I have been riding for 27 years, having started when I was 13 with a Famous James in 1947. I could see many of my acquaintances, as well as myself in "Whatever Happened to Blackjack Matthews"; hear the gripes of Indian owners because they could not get a needed part, or their antagonism toward a Harley owner for calling their Chief a "boat anchor." In "The Way They Were," I could relive my youthful experiences of going from one dealer to another, trying to decide which of the brands I would like to own. Before it would end I planned to experience the thrills of each. While reading Mr. Schneiders' article I could smell the oil-soaked floors of dealer showrooms which more often than not contained only one or two new bikes; and of days when Daytona was won continuously by Nortons. Since there were no Norton dealers in Vicksburg, Mississippi, we goggle-eyed the posters of Billy Huber's and Bobby Hill's flat track victories. Perhaps these days are gone forever along with the pride in American-made bikes and days of a friendly greeting exchanged by two riders passing on the highway. And when help was only the next rider away.

My thanks for bringing back these early days of my youth.

Bill Wright
Clinton, Mississippi ***CG***

Bring along a friend

Now there are 30 up-to-date Clymer motorcycle books covering 96% of all bikes in use. Titles scheduled in coming months will up the list to 35—and offer complete service information to owners of enthusiast, limited production, and competition makes.

Each book offers detailed step-by-step procedures for servicing, troubleshooting, repair, and major overhaul. Material has been painstakingly gathered and edited by top technical writers who are also bike enthusiasts. Text is illustrated by the best available photos and drawings, all keyed to appropriate paragraphs.

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Q&A

Q—Kindly inform me if there are *any* motorcycles that have automatic transmissions.

L. Wolf
Saugus, California

A—*Yes, there are, L. Next month we will have a test on the Rokon, an automatic-transmissioned enduro bike. There aren't any street bikes we know of that have automatic transmissions, although some of the little Hondas and other step-throughs have automatic (centrifugal) clutches. Husqvarna, Kawasaki, and Honda, among others, have reportedly experimented with automatic transmissions, but with unsatisfactory results. And Monark of Sweden is working on an army bike that uses an automatic transmission. We also heard of one factory that put an automatic in one of their superbikes, but when it hit second gear, it tried to loop over. They decided that it wasn't a good idea.*

The Rokon and Monark don't have automatic transmissions in the technical sense. They use a belt drive with variable-size pulleys. As the speed of the bike increases, or as the load on the rear wheel decreases, the pulley on the engine gets larger while the pulley on the "transmission" gets smaller, causing the overall gear ratio to be increasingly higher.

Our rear wheel torque chart on the Rokon next month should be an interesting one.

Q—In motorcycle magazines written about 1972, I have found warnings about the use of non-leaded gasolines in two-stroke engines. However, I have not seen such warnings in the more recent magazines.

The original fear was that additives peculiar to non-leaded gasoline would leave deposits in the crankcases. What is the current consensus on this problem?

Victor Murphy
Gainesville, Florida

A—*Removing tetra-ethyl lead from gasoline is one way that the oil companies have altered their products to make them meet the federal government's strict pollution standards. Non-leaded gas causes less contamination, but its octane rating is in turn lower.*

Motorcycle manufacturers realized that the octane ratings of most gasolines are lower, so they modified their engines slightly to make them suitable for the use of lower octane gas.

The owners' manual you receive with your machine gives the minimum octane rating of gasoline that the bike is capable of using for best performance. Consult the manual, and if a particular non-leaded gas has a high enough octane rating, you can use it without any bad side effects.

There aren't any additives in unleaded fuel that will leave unusual deposits; however, many two-stroke oils leave deposits on the piston, crankcase, and in the exhaust port. Whenever possible, use a fresh, name brand gas with the lowest octane rating that lets your machine per-

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form to its fullest. This lets the engine run clean and helps cut pollution.

Q—You're my last resort. I am the owner of a Yamaha DT125 Enduro that eats up back spokes like Easy Rider smokes dope. Our "friendly" neighborhood Yamaha dealer told me that it was because I didn't tighten them often enough. Bunk! I started to tighten them on a weekly basis, but they continued to break. So, I decided to have the wheel balanced and tightened by a dealer in hopes that the spoke-eating monster would be crushed.

Right now the bike is sitting in the basement gathering moss, and the back wheel is taking up much needed space in my apartment. The reason for this is that 13 spokes are "missing," and our dealer doesn't have any to fit it. So right now I'm waiting for a shipment of spokes which will probably break in a couple of weeks. Is my bike jinxed? Help, I'm desperate.

Rick Faktor
Quesnel, B.C., Canada

A—*It sounds like you've been looking at your bike as much as you've been riding it, Rick. We tested the Yamaha DT125 in the Dec. '73 issue of* Cycle Guide, *but we didn't break a single spoke, even though we rode it hard.*

The DT125 uses four different style spokes in the rear wheel. There are inner and outer ones for the left and right sides. Make sure you have the correct spokes on the proper side and in the right position. Have your dealer check this and order the correct ones you need; otherwise, they'll break very often, as in your case.

Check each spoke for proper tightness as you have done numerous times before; there's a chance that you've overtightened them during your weekly maintenance routine. All the spokes should be tightened the same amount, usually 10 to 15 inch-pounds of torque is enough.

Next, check the wheel for correct rim run-out. This can be done by mounting a dial indicator or some type of pointer next to, but not touching, the rim. Slowly spin the wheel and determine the amount of up and down and side to side movement. This run-out shouldn't exceed 1/16 inch. If it's more, have a competent wheel mechanic true your rim.

If the bike's rear shocks are worn out or too stiff, the spokes will take considerable punishment when the rear wheel hits the ground. You didn't specify how hard you ride your bike, but if you jump it a lot, the spokes absorb a lot of the impact upon landing.

After you have checked all of the above items, your spoke breaking problem should disappear. If it doesn't, you may have to respoke your wheel with heavier gauge spokes. Also, it helps to tightly wrap a piece of safety wire around the spokes at the point where they cross one another, midway between the hub and rim. This wiring keeps the spokes from flexing, which results in less spoke fatigue and breaking.

Q—I recently bought a Cheney-framed BSA 441. The bike is in good shape, except that the plating on the frame is tarnished badly and looks terrible. I've tried polishing it, but I think most of the plating has worn off. I am going to have it re-done, but I'm not sure what it was plated with in the first place. I've considered getting it chromed, but I think I read someplace that chroming weakens the frame. If so, what is the plating on my bike, and will having it re-done weaken the frame?

Ray Barber
Depew, New York

A—*You read correctly, Ray; chrome plating will indeed weaken a motorcycle frame. The frame is subjected to heavy stresses which cause it to flex somewhat. Chrome plating is much harder than any frame tubing, and when a layer of chrome is placed on a frame, it cannot flex to the same degree as the frame. So, when the frame flexes, the chrome plating cracks. And since the plating is electrolytically bonded to the frame, making the two metals like one, the crack soon extends right into the frame tube.*

Your frame is nickel plated, which is quite a bit softer than chrome plating, and has sort of a yellowish cast. It is really

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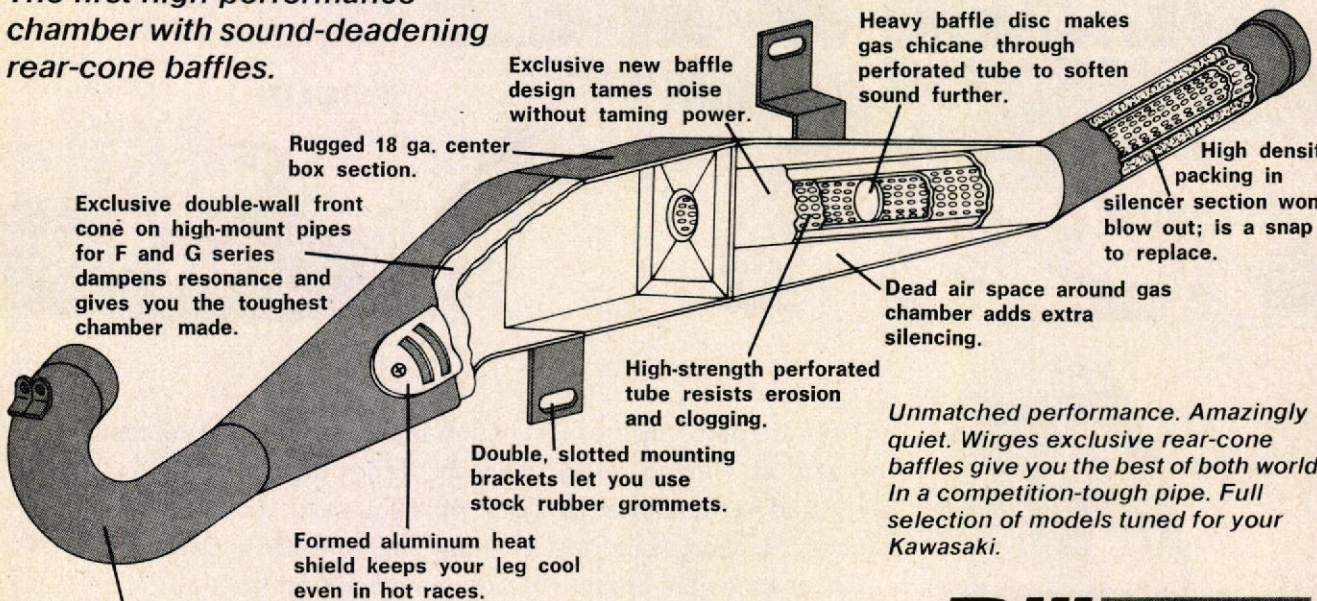
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If you're in the market for a new car, we suggest you make use of these results as follows.

1. Go down the list until you find the car you're considering.

2. Compare its mileage to the car at the top of the list.

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Datsun B210	M4	24.9
Toyota Corolla 1200 Sedan	M4	24.8
Volkswagen 412 Wagon	A3	24.6
Chevrolet Vega Hatchback	M3	24.6
Lotus Europa	M4	24.5
Volkswagen Dasher Sedan	M4	24.3
Volkswagen Dasher Wagon	A3	23.7
Volkswagen Dasher Sedan	A3	23.3
Triumph Spitfire	M4	23.1
Ford Pinto	M4	22.8
Dodge Colt Wagon	M4	22.8
Dodge Colt Coupe	A3	22.7
Subaru Wagon	M4	22.7
Toyota Corolla 1600 Sedan	M4	22.6
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BMW 2002	A3	22.6
Dodge Colt Coupe	M4	22.5
MG Midget	M4	22.4
Datsun B210	A3	22.2
Renault 17 Gordini	M5	22.2
Renault 12 Wagon	A3	22.2
Audi Fox	M4	22.0
Dodge Colt Wagon	A3	21.9
Honda Civic	SA	21.8
Saab 97	M4	21.7
Volkswagen Karman Ghia	M4	21.7
Subaru Coupe	M4	21.7
Toyota Corolla 1600 Wagon	A3	21.1
Volkswagen 181 "Thing"	M4	21.0
Volkswagen Super Beetle	M4	20.9
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Datsun 710	A3	20.7
Datsun 610	M4	20.6
Fiat X1/9	M4	20.4
BMW 2002 tii	M4	20.3
Fiat 124 Special TC	M4	20.2
Ford Mustang	M4	20.1
Datsun 710	M4	20.0
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Chevrolet Vega Panel Express	M3	20.0
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Lincoln-Mercury Comet	M3	19.9
Opel Manta Rallye	M4	19.8
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Porsche 911-T	M4	19.1
TVR 2500 M	M4	19.0
Volkswagen Kombi-22 (Microbus)	A3	19.0
Mazda 808 Coupe	A3	18.9
Renault 12 Sedan	M4	18.8
MGB	M4	18.7
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Toyota Corona SR Sedan	A3	18.4
Volvo 145	M4	18.4
Opel Manta	M4	18.2
Opel 1900	A3	18.2
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Opel Manta Luxus	A3	17.9
Fiat 124 Special TC	A3	17.9
Fiat 128 Wagon	M4	17.8
Fiat 124 Wagon	A3	17.7
Porsche 914-4	M5	17.5
Renault 17 TL Coupe	M4	17.5
Volvo 142	M5	17.5
Fiat 128 Sedan	M4	17.4
Chevrolet Vega Hatchback	M4	17.4
Ford Mustang	M4	17.3
Porsche 911 S	M5	17.2
Ford Pinto	A3	17.1
Peugeot 504 Sedan	A3	17.0
Volvo 144	A3	17.0
Ford Mustang	A3	16.9
Lincoln-Mercury Capri	A3	16.9
Porsche 911 S	SA	16.9
Triumph TR-6	M4	16.9
Peugeot 504 Sedan	M4	16.8
Plymouth Valiant Duster	A3	16.7
Ford Maverick	A3	16.7
Ford Pinto Wagon	A3	16.6
MGB/GT	M4	16.3
Datsun 260Z	M4	16.[illegible]
Porsche 911 T	M5	1[illegible]
Audi 100	M4	[illegible]
Saab 99 LE	A3	[illegible]
Fiat 124 Sport Coupe	M5	[illegible]
Dodge Dart	A[illegible]	[illegible]
AMC Gremlin	A[illegible]	[illegible]
Datsun 260Z	A3	1[illegible]
Chevrolet Nova Hatchback	A3	15[illegible]
AMC Gremlin	M3	15.6
Ford Maverick	A3	15.6
Lincoln-Mercury Comet	A3	15.5
AMC Hornet Sportabout	A3	15.5
Chevrolet Vega Panel Express	M4	15.4
Toyota Mark II Sedan	A3	15.4
Toyota Mark II Wagon	A3	15.2
Toyota Mark II Sedan	M4	15.2
Chevrolet Nova Hatchback	A3	15.2
AMC Hornet Sedan	A3	14.7
Volvo 164	A3	14.5
Mercedes Benz 230	A4	14.3
Mercedes Benz 280	A4	14.1
Ford Torino	A3	14.0
BMW Bavaria	M4	13.8
Checker Sedan	A3	13.8
Volvo 164	M5	13.4
AMC Gremlin	M4	13.2
AMC Javelin	M3	13.2
BMW Bavaria	A3	12.7
Plymouth Valiant Duster	M3	12.5
AMC Matador	A3	12.4
AMC Matador Wagon	A3	12.3
AMC Javelin	A3	12.1
Citroen SM	A4	11.9
Plymouth Satellite	M4	11.8
AMC Hornet	M3	11.7
Plymouth Satellite	A3	11.6
Maserati Bora	M5	11.6
Ford Torino Wagon	A3	11.4
Lincoln-Mercury Montego Wagon	A3	11.4
Citroen SM	M5	11.2
Avanti Coupe	A3	11.0
Chevrolet Impala Sports Sedan	A3	11.0
Lincoln-Mercury Montego	M3	11.0
AMC Javelin	M4	10.8
AMC Ambassador	A3	10.8
Mazda RX 3 Wagon	M4	10.8
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Mazda RX 3 Coupe	A3	10.7
Mazda RX 2 Coupe	M4	10.6
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Ford Pantera	M5	10.4
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Ford Torino	M4	9.8
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Jaguar E Type V-12	A3	9.7
Buick Estate Wagon	A3	9.6
Chevrolet Caprice Wagon	A3	9.6
Lincoln-Mercury Cougar	A3	9.5
Ford Wagon	A3	9.5
Oldsmobile Cutlass Supreme	A3	9.5
Pontiac LeMans	M4	9.4
Rolls Royce Silver Shadow	A3	9.3
Pontiac Catalina	A3	9.2
Pontiac LeMans	A3	9.2
Buick Grand Sport	A3	9.1
Chrysler	A3	9.1
Oldsmobile Delta 88 Royal	A3	9.0
Pontiac Ventura GTO	A3	8.9
Pontiac Ventura GTO	M4	8.9
Chrysler Wagon	A3	8.9
Plymouth Fury Wagon	A3	8.9
Cadillac DeVille	A3	8.9
Buick Regal	A3	8.8
Pontiac Grand Am	A3	8.8
Chevrolet Caprice Classic	A3	8.8
Oldsmobile Vista Cruiser	A3	8.7
Cadillac Fleetwood	A3	8.7
Pontiac Trans Am	M4	8.6
Pontiac LeMans Safari	A3	8.6
Excalibur II	A3	8.5
Dodge Sport Wagon	A3	8.5
Pontiac Grand Safari	A3	8.4
Oldsmobile Toronado	A3	8.3
Buick Electra 225	A3	8.3
Pontiac Catalina Safari	A3	8.3
Jensen Interceptor	A3	8.2
Pontiac Grand Ville	A3	8.1
Mercury Wagon	A3	8.1
Lincoln Continental	A3	7.9
Maserati 120	M5	7.8
Pontiac Bonneville	A3	7.8
Chevrolet Chevelle Laguna	M4	7.6
Oldsmobile 98 Regency	A3	7.6
Oldsmobile Delta 88 Wagon	A3	7.6
Lamborghini Jarama	M5	7.3
Lamborghini Espada	M5	7.2
Ferrari 365 GTB-4	M5	6.5

In transmission listings, A is automatic and M is manual; i.e. A3 is a three-speed automatic and M4 is a four-speed manual. SA is semi-automatic.

Where two or more cars of the same make, model and transmission were tested, we have listed the best mileage figure recorded for that model, regardless of variances in weight, engine size and axle ratio.

Data is based on information available as of Feb. 19, 1974.

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The Honda Civic. More miles per gallon than anybody.

much better suited for cycle frames. Replating your frame with nickel will not weaken it noticeably, but whatever you do, don't chrome it unless you don't intend to ride it.

Q—I own a 750 BMW with a floating caliper disc brake, which squeals and squeaks when I use it lightly. Is this problem inherent in disc brakes and can it be remedied? I've noticed in your road tests that many of the disc brakes on test bikes make loud noises.

Ronald Portnoy
Hauppauge, New York

A—This is an occurrence common to most disc brakes, and one that we have experienced on most of our test bikes so equipped. The squeal is actually a high-frequency chattering of the caliper pucks. When a puck touches the disc lightly, there isn't enough pressure behind it to keep it firmly in place as it tries to grab onto the surface of the disc. The result is squealing much like what you get when you rub two metal surfaces together at high speed.

Changing the material content of the pucks can cut down the amount of squealing considerably. But the lining that provides the best stopping also seems to cause the most squealing. The brake manufacturers are aware of the problem, but right now, they're sort of stymied. They claim the noise doesn't hurt anything, which, roughly translated, means that disc brakes will probably be squealing for a long time.

Q—I own a 1973 Triumph Bonneville 750. I just returned from a 7000-mile trip down the California coast through Arizona and back to Idaho. It was a lot of fun, and I plan to go on another as soon as I get rid of those blasted Amal carbs that come stock on my bike.

My question is: What kind of carbs could I replace my Amals with that would make it breathe and start better, run smoother, accelerate quicker, and possibly be easier to keep in tune. I was thinking along the lines of a pair of pumper carbs or a set of Mikunis. Your answer would be appreciated by me and a few other Bonnie owners in my area.

Mike Steiner
Boise, Idaho

A—Before you make any carburetor change, you might check your bike's ignition system and valve train. When I was building Triumph flat trackers a couple of years ago, I found that Amal concentric carburetors worked very well under most racing conditions. For instance, these carbs were on the winning machine at the 1972 San Jose National Championship race. If they are capable of performing well under these race conditions, they will definitely work well for normal touring trips.

I ran every racer on the dyno to fine-tune it, and along the way, made some carburetor checks. These Amal carbs allow almost as much air flow as the Mikunis, but they, in fact, respond quicker in the low- and mid-rpm ranges. Also, the Amals get more horsepower out of the engine. This isn't one man's opinion, but facts that have been verified by the dyno and flow bench. The Amals are just as easy to tune as Mikunis, and their overall performance has been found to equal that of the Mikunis.

From the symptoms you've described, it sounds like your bike needs a thorough tune-up by a competent Triumph mechanic, or possibly a top-end job; changing carburetors isn't the answer. Changing carbs requires a lot of trial and error experimenting with jets, slides, needles and manifold length. Unless you have facilities to check these things, you could end up with more trouble than you have now.

Mail all Q & A correspondence to:
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Cycle Guide Magazine
1440 West Walnut Street
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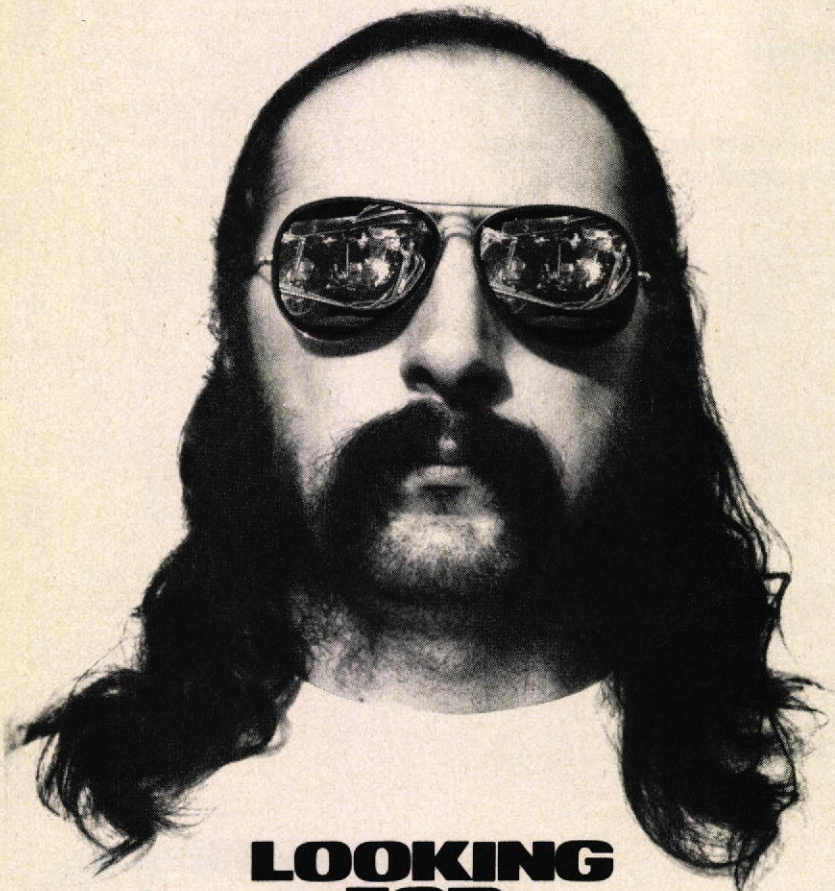

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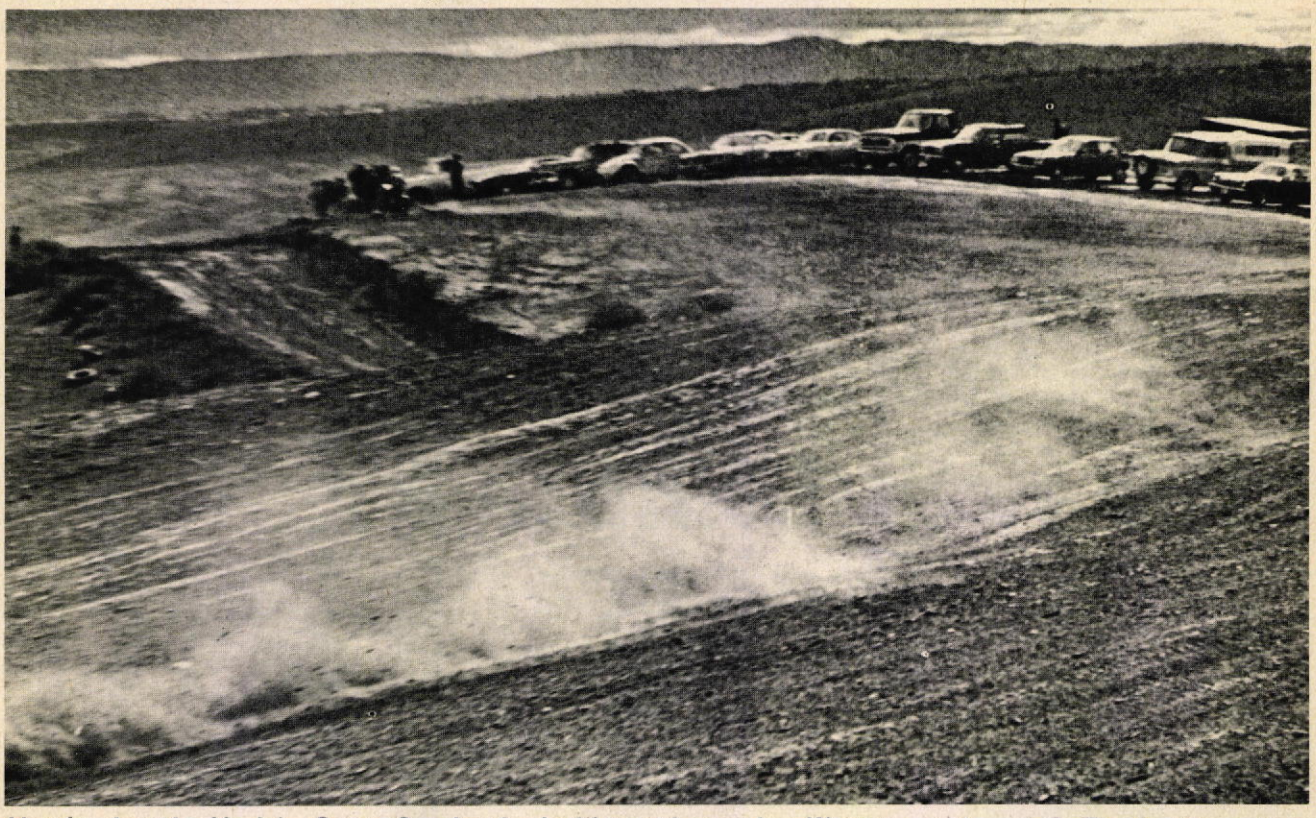

Here's what the Hodaka Super Combat looks like at the track. Want to see it again? The fact is, unless you own a Super Combat, you may never see one long enough to get a good look. So here's what you'll see when you visit your nearest Hodaka Dealer:

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The Hodaka Super Combat is a high performance motocross machine designed to blow Elsies, YZ's and other "out-of-the-crate" 125's into the weeds. The Hodaka Super Combat is NOT a trailbike. It's pure motocrosser, with superb handling, plenty of horses and features like:

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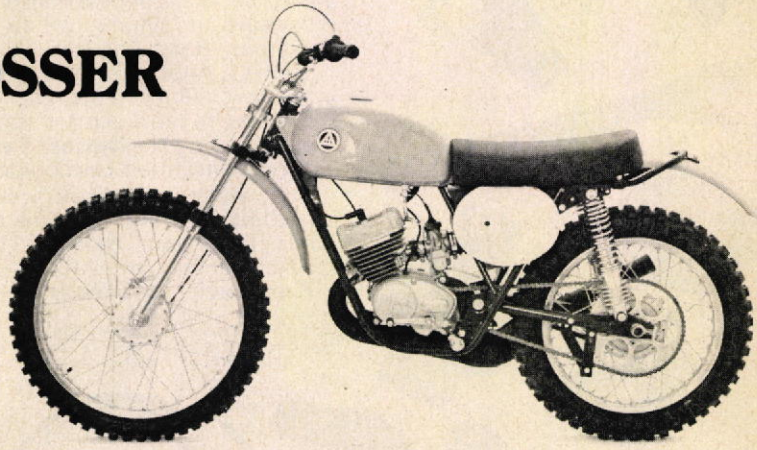
The Super Combat has no sidestand, but is supplied instead with a portable centerstand. Also included is a tool kit and suspension tuning kit so that the bike can be adjusted to different weight riders and various types of tracks.

The Hodaka Super Combat is a limited production racer, so if you plan to do some serious racing, beat it on down to your Hodaka Dealer...before the dust clears.



For more information about the Hodaka Super Combat and other Hodaka Motorcycles, look in the Yellow Pages for your Hodaka Dealer or fill in the coupon and send it with 25 cents (to cover cost of postage and handling). We will send you a copy of the "Hodaka Story" and direct you to your nearest Hodaka Expert.

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BOOK REVIEW

THE ROAD RIDER: A Guide to On-the-road Motorcycling, By Robin Perry, Crown Publishers Inc., New York, N.Y., 6" x 9" hardbound, 152 pages, black-and-white photography. $4.95.

If ever there was an appropriate time for such a guide, this would seem to be it. Although the gas crisis has receded to the back of everyone's mind, the spectre of it is still there, given the high price of gas and the continual reminders we get—circulars tucked neatly in with the monthly statements from the gas and electric companies and so on—that our supply of fuels is perilously low. The spin-off from the crisis of last winter, apparently, is that a lot of people have gone out to purchase economical transportation in the form of two wheels. And as more people become motorcycle-purchasing statistics, more of them will become two-wheel accident statistics.

So Mr. Perry's book has two targets: Enable all those people, the neophytes as well as the long-time owners, to enjoy their mounts more; and help them to do so safely. He has hit both targets and he has missed both with this book.

The book hits the bull's eye with several strong chapters on defensive riding and safety. Along with these broad categories, Perry ably covers subtopics like clothing, riding in various weather conditions, carrying a passenger, and nighttime riding. Although a lot of the book is geared to the novice road rider, the portions on defensive riding and safety might just prove a good refresher course for more experienced motorcyclists.

Perry misses the point the most in the sections showing the newcomer which motorcycle to choose and how to maintain it. In advising which bike to select for road riding, he subscribes to the thesis, "the bigger the better." It's dubious at best to tell the first-time buyer who's a 98-pound weakling to shell out his bucks, assuming he can afford it, for a Kawasaki Z-1, just because he thinks he wants to do a lot of road riding. Then he advocates other things like taking your showroom-shiny bike home and disassembling both the front and rear wheels and brake assemblies to see how they work. Even some people who've been around bikes awhile can't reassemble such mechanical mysteries properly and safely. He also plugged a number of products, such as chain lube, silicone spray, and engine degreaser. While it's nice to identify products by brand name so the novice knows what to look for, the author's inference that these are the only products on the market that do the job is just simply wrong. A brief count showed at least 15 points throughout the book that were either questionable or downright incorrect.

The overall graphic package is appealing, starting right at the beginning with the glossy-papered dust jacket with its four-color photograph of a road rider and his motorcycle in repose. The text inside is illustrated and broken up with 93 good-quality photographs. The problem is that the writing contained in the package just isn't that good. For instance, some of the author's points are so poorly worded that you have to go back over them several times to understand what he meant. Organization of the material could be better, and repetitions are numerous. Some of this constant restatement is justified for the sake of emphasis, but the reader's feeling of *deja vu* is very strong at times. And the poetry at the front of the book would never have been claimed by T. S. Eliot.

It's worthwhile, but keep an eagle eye out for technical inaccuracies. *Carol Neill*

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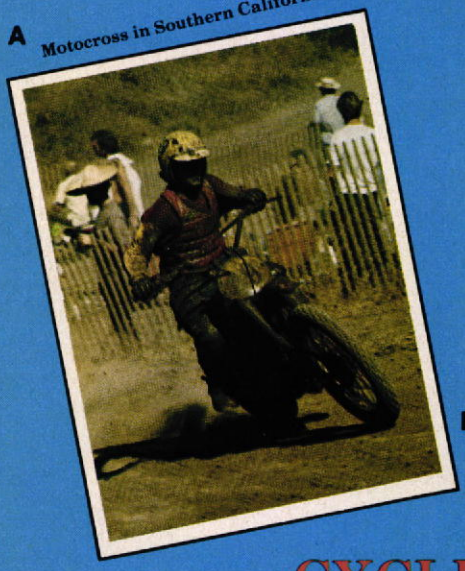

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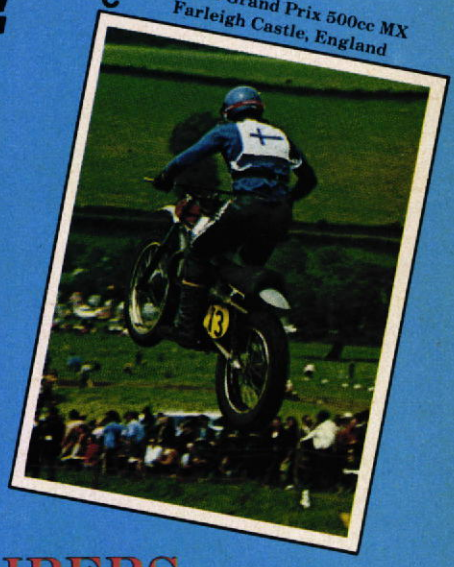

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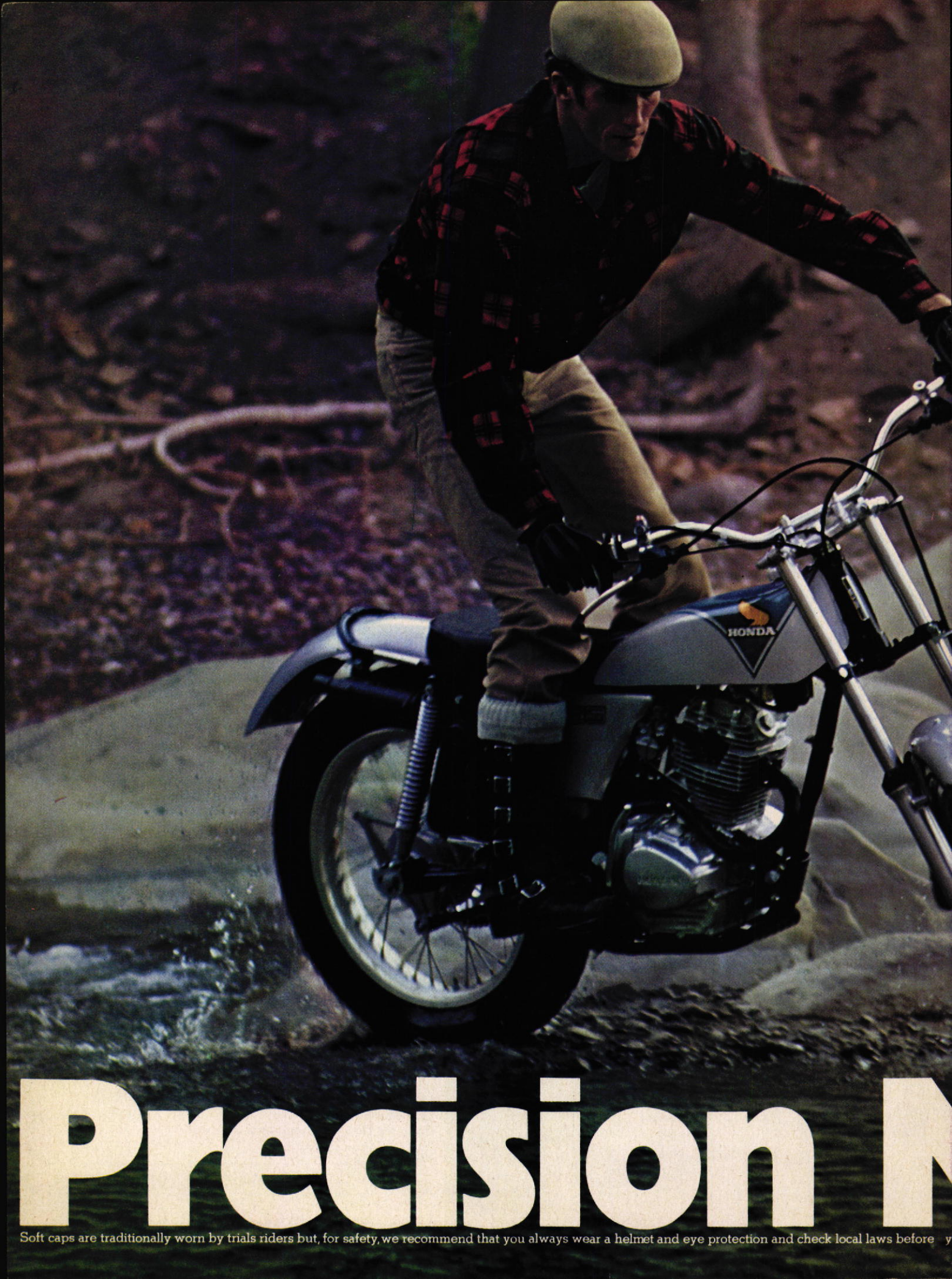

Precision M

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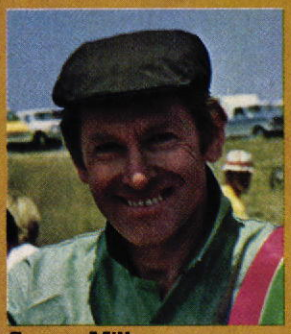

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TOOLBOX

Check Batteries Weekly

All too often, riders come into service departments complaining of headlamps, taillamps, and indicator bulbs blowing out. They are quick to complain about the motorcycle or "cheap Japanese bulbs," but often the rider himself is the culprit. Some riders check their oil religiously, but they completely ignore the electrolyte level in the battery. When this level drops below the top of the lead plates, it starts a sulfation process that not only reduces the battery's efficiency, but shortens its life as well.

Remember that the alternator on the motorcycle is putting out a fluctuating (AC) current that rises and falls with the speed of the engine. This AC current is converted to DC through a rectifying device, but on some machines without voltage regulators, it is still a rising and falling current. As long as the battery is in good condition it will act as a buffer for this fluctuating current, stabilizing it so that no harm comes to any of the electrics. But when the electrolyte drops below the required level, the battery loses its ability to completely buffer the rising current when the engine is revved. As a result, high rpm could cause a blown headlamp or taillamp. While the battery will never lose the acid it contains (unless of course it is spilled out), it does lose the water content through evaporation. And this problem seems to manifest itself more in the summer, when the heat causes greater evaporation. Therefore, the electrolyte level in the battery should be checked at least once a week during the hot summer months and topped up if needed. By topped up, I mean bring it up to the mark on the battery that is placed there for checking purposes. Most batteries are marked "upper level" and "lower level" which is self explanatory. Don't let the fluid drop below the lower mark, and don't fill it higher than the upper mark.

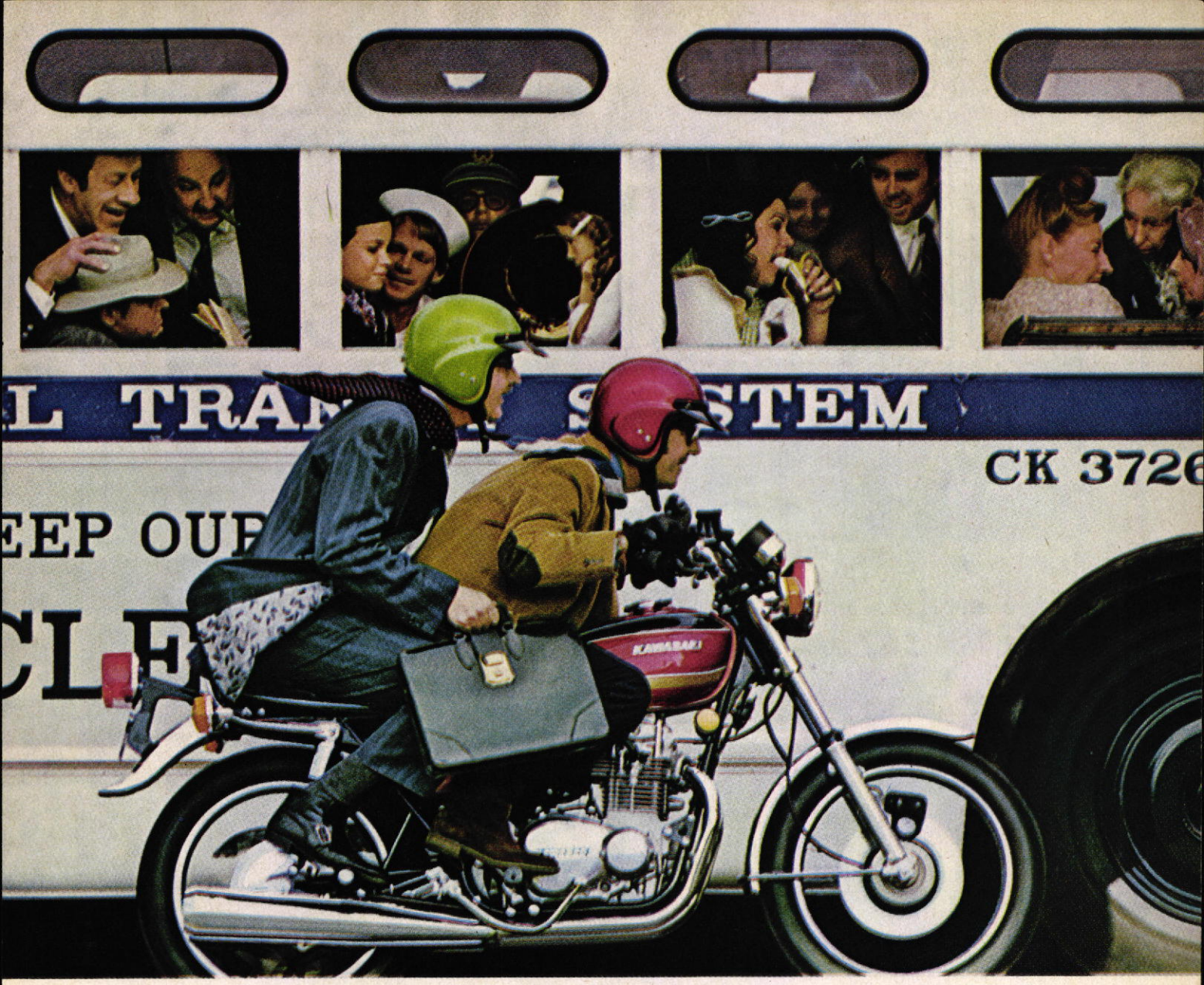
When you remove a blown bulb and see that its interior is black, this is caused by a surge of high voltage current, and you had better check the fluid level in your battery. Although this is not always the cause (the second most popular culprit is a loose or corroded battery ground strap), it is one that you should not fail to check. Many riders never check the battery because they have no way to fill it; so they just wait until they take it into a shop for some other service. As I have mentioned many times before, one of the best devices for filling a motorcycle battery is an ear syringe. It can be purchased at any drug store for less than a dollar, and does a Jim Dandy job without any mess or problems. One last thing: the battery should always be topped up with distilled water. If you use tap water, keep in mind that it contains chemicals and minerals that can harm the battery. When the water evaporates, these other things do not; and as you keep replacing the evaporated water, you keep adding more chemicals and minerals until they damage the battery. If you can't find some distilled water, you can always chip some of the frost out of your freezer and melt it down, but most grocery stores carry distilled water for use in steam irons.

18-Volt Indicator Bulbs

What got me to thinking about blown bulbs was a customer who came into my shop the other day and wanted me to replace the bulbs in his Kawasaki Z-1. He had already checked the battery and found the fluid low. He topped it up, but the indicator bulbs had already blown. Now, I have always been somewhat partial to the Z-1, because it seemed that everything on it was designed for ease of maintenance, and most heavy repair work can be performed with the engine still in the frame. But somewhere along the line, the fellow who designed the speedo and tach forgot about this "ease of maintenance" bit. Unless you have done it once, you can't imagine the problems you have just getting at the indicator bulbs to replace them. I won't go into it here, but believe me, if you ever have to do it once, you won't want to do it again.

This is why I decided to try and figure out a way to prevent the bulbs from blowing out, or at least a way to keep it from happening so frequently. Then I remembered the system that the early Bultacos used to keep from blowing indicator bulbs: they used 18-volt bulbs, which worked out fine. It just so happened that I had some of these in stock, so I put them in. I explained to the customer that he probably wouldn't need these bulbs if he kept an eye on the battery fluid level, but they wouldn't do any harm either.

It has been almost a month since I installed the bulbs and the customer is super-happy with them, but not because they haven't blown out (he checks his battery regularly now); he's happy because at night, the bulbs light the instruments brighter and he can read them without having to squint. He says they're not bright enough to distract him, but just bright enough to light up the dials for easy reading. If you have had a recurring instrument bulb problem and you would like to replace them with these 18-volt bulbs, they can be obtained at most hobby shops, since they are used in model trains. The ones I use are General Electric



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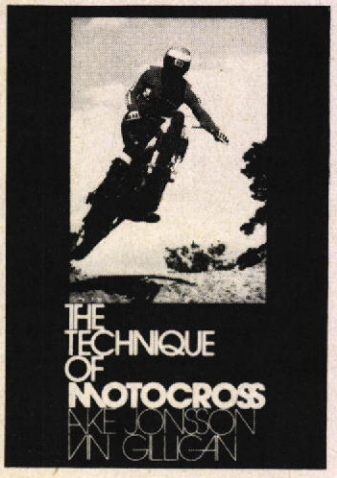

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#1445 18-volt Toy Train Bulbs. If your hobby shop doesn't stock them, they can probably order them for you. Who knows, you may never have to change an indicator bulb again. And on a Z-1, this would be a Godsend.

Kawasaki Z-1 Vacuum Gauge Adaptor Plugs

While on the subject of the Kawasaki Z-1, they have made a nice improvement on the vacuum gauge adaptors for setting the carbs. On the Honda fours, you have to remove a screw-type plug on each manifold and insert special wands (at $16.00 a set) that connect to the vacuum gauges. The Z-1 has nipples molded right into the manifold, and the vacuum gauges connect right to the nipples. There are rubber plugs covering the nipples while they're not in use, which is handy and easy to work with, but not without a certain drawback. Even though they fit very tightly, these rubber plugs (part #92068-006) can be pulled off by neighborhood kids or pranksters. They're not that expensive, but if you should happen to find one missing in the evening or on the weekend when the shops are closed, it could terminate your riding until you plugged the hole. Running the engine with an open hole in the manifold would create a super-lean condition that could damage the engine, besides making it run ratty. If you wanted to be crude about it, you could do what one rider did. He came into my shop on a Monday morning with a nipple plugged with bubble gum. It was a little messy, but I must admit, it did the job.

However, there is an easier way. If you need one of these plugs and you can't find or get to a shop, just head for the nearest automotive service station that installs or works on smog control devices. The companies that manufacture these smog units devise a system of rearranging the vacuum hoses on the engine, which reroutes some of them and eliminates others. When they eliminate one of the lines, they must plug it off or else they would end up with the same problem as you with your uncapped fitting. The companies put a few extra rubber plugs in each kit to make sure that the installing mechanic will always have enough. There are always some lying around the shop that they will probably give you just for the asking. They aren't as big as the stock items, but they do the job well. And, they fit tightly, so you don't have to worry about them coming off. Better still, why wait? Get a couple of them now and carry them in your toolbox just in case.

Checking For Spark

In my shop, I charge a small service fee for testing electrical components that are carried in by customers. I provide this service so the customer can be sure that the parts in question are actually bad before buying new ones.

Coils and condensers are the most popular electrical items brought in to be checked, but nine times out of ten, they prove to be in good condition. Naturally, I always ask why he suspects a problem, and why he went to all the trouble to remove the parts and bring them in to be checked.

It seems I always get the same answer. "I pulled the spark plug, attached it to the high tension lead, laid it on the head, and when I kicked the engine over, there was no fire" (this is after the machine had suddenly stopped running). For some unknown reason, it never occurs to them that maybe the reason the machine stopped running was because the plug (or plugs) fouled or shorted out. If this is the case, the spark is either arcing internally where they can't see it, or else it is bleeding directly to ground and making no visible spark at all. If they don't see a spark, they immediately start digging into the electrics.

The next logical solution would be to try a new spark plug, but sometimes you don't have one handy. Even a new plug will often fail to fire if you don't get a good ground onto the head. In my shop, I use the center from an old English KLG spark plug. That was the kind that you could take apart for cleaning, then reassemble again. With the price of plugs skyrocketing along with everything else, maybe they had the right idea. These plugs are hard to find now, but you can make do by taking a regular old spark plug and very carefully hacksawing or grinding the outer metal body away, leaving the center porcelain insulator. If you clip the plug wire to this insulator, you can hold onto the porcelain part without getting shocked while you turn the engine over. Hold the electrode close to the head and vary the gap to see if you are getting spark and also to determine what kind of spark you are getting.

If you are absolutely positive there is no spark, there is one way that you can be sure: simply grasp the plug firmly in your hand and depress the kickstarter lever briskly. If your eyes light up like a pinball machine, you are getting spark; but if you just feel a small tingle or nothing at all, you probably have electrical problems. (This method is not recommended for riders with CDI ignition and a history of cardiac problems.) You are probably saying to yourself, "If he thinks I'm going to grab that plug wire and kick the engine over, he's nuts." Well, this method is for use only after you are positive that there is no spark. If you haven't the guts to grab the wire, then you must not be sure that there is no spark. When I explain this to my students at Golden West College, I also tell them of a much better method, perhaps the ideal one. What could be better than you grabbing the wire to see if there is a spark? Simple: have someone else grab it while *you* turn the engine over. ***CG***

3-way leg snaps

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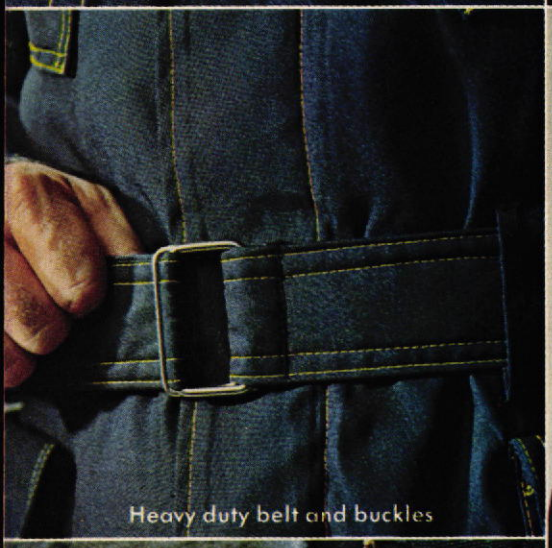
Heavy duty belt and buckles

Zip in-zip out liner

Bellows pockets

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cycle guide

ROAD TEST

KAWASAKI 750 MACH IV H2B

The 750cc Superbike lives . . . and at a rational price

It's getting tougher all the time to be a superbike. The pressures of environment, economy, and riding comfort are causing motorcycle manufacturers to make their street machines quieter, less polluting, less fuel-thirsty, and more comfortable. That means less power and, quite often, a heavier chassis. And *that* means a slower, although less offensive and more comfortable, motorcycle.

Look around; it has happened everywhere. The Norton 850 is slower than the Norton 750. The new Honda 750 is slower than the original Honda 750. The Harley Sportster is a stone slug compared to its predecessors. Performance-wise, the Kawasaki 500 is a mere shadow of its former self.

That leaves bikes like the Triumph Trident (although Triumph's economic situation is still sort of touch-and-go), the Laverda 1000 (if you can even find one to look at), the BMW R90 Sport (if you have the bucks), or the Kawasaki 903 and 750. The 903 Z-1 started life as the prototype of the New Superbike; it was comfortable, quiet, had a system of controlling crankcase emissions, and got decent gas mileage. And for the time being, at least, the Z-1 isn't in danger of having the "fun" removed for the sake of "nice."

The Kawasaki H2 is a different story. The first ones were as quick as anything around, but they smoked a lot, gulped gas, and vibrated heavily. And there were complaints from some quarters about the handling. The solutions to just these kinds of problems were what turned Detroit's 13-second muscle cars into 15-second sleeping pills.

Kawasaki didn't release the 1974 750 triple to its dealers until late May, after several prototypes had been tested and sent back to Japan for revamping. When the bike was finally released, the big question was whether or not the performance had been left out when the other niceties were installed.

THE BIKE: Although the subject of this test, the Kawasaki H2B, is the same basic motorcycle as previous H2s, there have been many changes made.

The three-cylinder, two-stroke engine is pretty much the same, and the bore and stroke remain unchanged at 71mm and 63mm, totalling 748cc. The 7:1 compression ratio and the port layout are also the same as in earlier 750s, with one piston-controlled intake, two transfers, and one exhaust port per cylinder.

The three 30mm Mikuni carburetors were changed slightly in the interest of safety, fuel and oil economy, and reduced exhaust smoke. The motorcycle industry

PHOTOGRAPHY BY ART FRIEDMAN

seems concerned about sticking throttle slides, and many manufacturers have been able to assuage their fears by using heavier return springs. But pulling against those stiff springs tires your right hand during long rides. Kawasaki's solution is to use aluminum throttle slides, which they feel can't dig into the alloy carb bodies like some conventional steel slides.

The carburetor float bowls were also redesigned to accept lines from the oil injection pump. The pump feeds four lines, three of which deliver oil to the main bearings. The other one splits into three smaller lines which feed oil into the float bowls, where it mixes with the gasoline. Kawasaki apparently feels that by mixing the oil with the gas in the float bowl, a smaller quantity of oil will be used, and it will mix and be burned more thoroughly than if it is injected into the intake tract as on previous models. In a further effort to reduce exhaust smoke, a one-way valve located at the bottom of each cylinder's crankcase drains any oil that collects there and reroutes it to the main bearings of another cylinder.

The H2B generates its spark current by means of a magneto-type capacitive discharge ignition on the left end of the crankshaft. The high voltage this system produces deters plug fouling, insures maximum plug voltage, and is virtually maintenance-free—mainly because there are no points to wear or corrode. The factory-timed ignition should never need attention again unless some part of the system should break. The MCDI system will work without the battery, but doing so will eventually cause the system to fail.

The five-speed transmission shifts on the left side, but the shifter shaft also extends out of the case on the right. Kawasaki offers a kit which converts the 750 to right-side shifting and left-side braking.

The H2B frame is a double downtube, double cradle type, using rubber mountings for the engine and passenger pegs. The three separate exhaust pipes are also rubber-mounted to reduce vibration cracking.

The 750 is visibly longer than in previous years. Kawasaki lengthened the wheelbase more than two inches by using a longer swingarm. They also slid the top shock mounts rearward to keep the same shock mounting angle. Previously, the wheelbase was about 55.5 inches, but now it averages almost 58 inches.

The 4.5-gallon steel gas tank is held down by a rubber strap, and the seat keeps it from sliding rearward. The fuel petcock is the vacuum type; in the On or Reserve position, gas flows to the carburetors only when a diaphragm, which is connected to the intake tract of the right cylinder, is operated by manifold vacuum—that is, when the engine is turning over and drawing air. If the engine is off, the tank may be removed with the petcock in the On or Reserve position and gas won't run out. The only time that gas will flow without the engine running is when the petcock is in the Prime position.

Flipping up the locking seat reveals a multitude of goodies, including an air intake silencer, the oil filler cap, three

spare spark plugs in their own container, four boxes containing some of the ignition components, and two helmet hooks. The tool kit resides in the hollow taillight housing behind the seat, which has additional room for a map or some other small items.

A 2.1-quart oil injection tank is mounted on the right side of the frame. There is a small window in the tank for checking oil level, but it is hard to look into. You have to get your eyeball right down next to the window to see the oil level. And adding oil through the small under-the-seat filler hole is messy unless you use a funnel.

gle-action hydraulic disc brake at the front and a single-leading shoe drum brake at the rear.

ENGINE AND GEARBOX: Starting the Mach IV is more hassle than with most machines. There is no electric starter, and the bike must be in neutral for kickstarting. The right footpeg must be folded up out of the path of the kickstart lever, and we found that it was usually necessary to kick the lever all the way through to get the bike to light off.

If the engine was cold, it was easiest to start if we switched the petcock to Prime, used the "choke" lever on the left handlebar to raise the starter plungers in

the engine would be running clean with no excessive exhaust smoke. The only other time the exhaust smoked noticeably was when we ran it hard after a long period of slow riding around town. It smoked for a couple of minutes until any oil that had accumulated in the engine and pipes had burned off. The H2B went over 800 miles on one quart of oil, so Kawasaki's new injection system seems to be an improvement over the older system.

The H2B's throttle response and acceleration are crisp between 3000 and 4500 and spectacular between 4500 and 7000. If you turn the throttle wide open below 3000 rpm in the top three gears, the engine

The left side cover hides the 12-volt battery and a manual chain oiling system. A small plastic tank carries oil for the chain, and by pulling a knob behind the side cover, you release a small amount of oil which runs down a hose and drips onto the chain at the countershaft sprocket. Kawasaki recommends that the chain be lubricated this way at least every 200 miles, either while you are moving or just before you take off.

The steel rims are both shod with Dunlop rubber, a 3.25 x 19 rib up front, and a 4.00 x 18 K87 at the rear. There's a sin-

the carbs (which enrichens the mixture), and left the throttle closed. It usually started on the first or second kick if we followed this drill, but it would take about five kicks if we didn't turn the petcock to Prime. One kick would usually start the engine when it was warm.

When the engine was cold, the H2B needed about twenty seconds worth of warm-up before it would pull away without bogging. It always smoked a little bit the first time we'd accelerate through the lower three gears after starting the engine. By the time we would reach fourth gear,

loads slightly until it reaches 4000 or 4500 rpm, then runs cleanly. Around town we found ourselves shifting between 4000 and 5000 rpm, using only about quarter throttle. Even ridden that way, the H2B outdistanced traffic easily.

When the engine reaches the powerband, the acceleration is tremendous. It builds rpm quickly and cleanly until just past 4000—then it leaps ahead with a rush as great as any street-legal machine still in production. The engine will rev easily to 8000, but 7500 is the maximum useful rpm, and the power drops off above 7000.

The H2B's best quarter-mile run at Irwindale Raceway was 12.96 seconds at 101.5 mph. That's a tad slower than some previous H2s, but our test bike was plagued with a slipping clutch at the drag-strip. Even so, it was still faster than any other stock 750 we've tested recently. The clutch slippage only occurred noticeably at the drag strip or under equally hard acceleration when the bike wasn't warmed up. One remedy is stiffer springs, but that will make the now firm-but-not-unpleasant clutch pull too stiff.

First gear is sort of tall, and getting off the line quickly requires some intentional clutch slipping. But if you're not in a hurry, you can let the clutch fall home at 2000 rpm and the engine's torque will pull the H2B away easily.

On the freeway the tach indicates about 4000 rpm at 60 mph. That is just the very beginning of the powerband, so it usually isn't necessary to downshift when passing from that speed. You still have the option of downshifting if you need maximum power. In fact, you can break the 55 mph speed limit in the first four of the five gears. It will go slightly over 60 in second gear and will break 100 in fourth.

The engine has several bad habits, which include being very noisy. But it isn't exhaust noise; it's mechanical clatter and intake roar. Kawasaki uses straight-cut gears for the primary drive, which consume less power than helical-cut gears, but are also noisier. There is also an annoying rattle in the clutch and transmission mainshaft when the engine is idling. Pulling in the clutch lever makes the noise go away. In addition, the pistons do a high-rpm ring-ding, which is amplified by the cylinders' cooling fins. And the intake roar is cut down considerably by a large rubber silencing funnel placed over the air cleaner intake opening. Removing the funnel added over five db(A) to the H2B's sound level. With it in place, H2 registered 87.7 db(A) during our sound level testing.

Besides noise, the engine has another bad habit: Under low-load situations below 5000 rpm it surges badly. Large-bore two strokes seem prone to do this; the Suzuki GT750L we tested last month was a surger, but the H2B is more obnoxious about it. The surging occurs when the throttle is closed slightly from a steady speed, or when the load is very light at a steady speed—in first or second gear, for example. Applying more throttle or closing the throttle all the way made the surging stop.

The bike doesn't get very good gas mileage, although it seems better than in the past. We averaged 30.6 miles per gallon during the test. The best mileage—about 35 mpg—was obtained in city driving. Two-up touring reduced it to about 30 mpg, and our Sunday-morning mountain-road racing adventures hauled it down to around 24 mpg.

During the test, the transmission shifted flawlessly, even though the location of the

neutral position bothered some staffers. The 750 has neutral at the very bottom of the shift pattern instead of between first and second. This makes it quite easy to locate neutral when you find yourself coming to a sudden stop in fifth gear; you never have to fish for it because you just keep downshifting to get there. However, testers who weren't used to this arrangement occasionally went too far while downshifting and found themselves in an unexpected neutral.

Otherwise, no one complained about the shifting. The shift throw is short and light, and the gearbox changes gears quietly with no clunks, except when it is put into first gear from neutral.

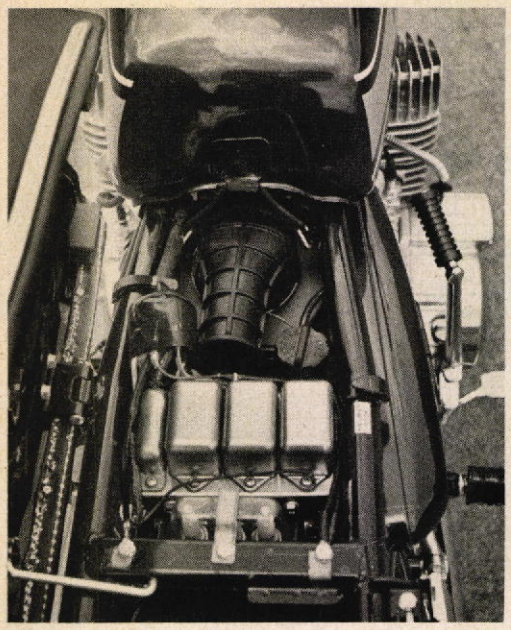
HANDLING: The long wheelbase makes the Mach IV very stable under most circumstances. The bike doesn't wiggle on freeway rain grooves and isn't affected by most sidewinds. The long wheelbase also made it very easy to get the bike off the line at the dragstrip. It tracked straight and didn't want to lift the front if we made even the slightest effort to keep our weight forward.

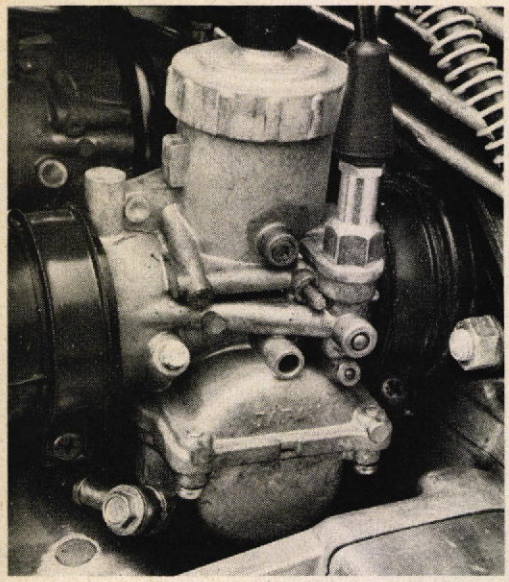
Because the additional length is all at the rear, the front of the bike is heavier than before; 45.8 percent of the H2B's weight is on the front wheel, which makes the steering heavier when the bike is stopped. However, 1.5 degrees less steering rake (26.5 degrees) and four-tenths of an inch less trail (4.1 inches) keep the steering from being too heavy once you are moving. You can crawl through a traffic jam with confidence.

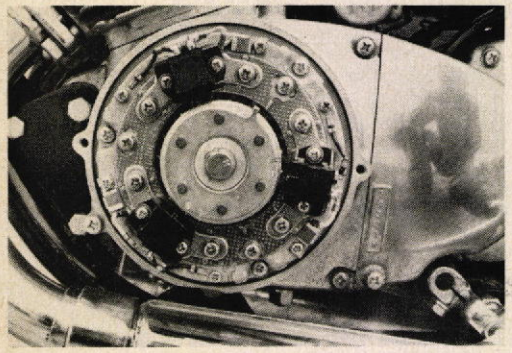
Early in the test we found that we could move the rear wheel slightly from side to side if we held the bike steady and yanked on the wheel. We also noticed a tendency for the bike to twitch over some irregularities and dips in the pavement. This pointed up a disadvantage in having a long (23 inches from pivot to axle) swingarm. A little play at the pivot results in a large movement at the axle. By tightening the swingarm pivot nut, we were able to remove most of the play and the resultant twitching, although a slight bit of it remained.

The tendency of the swingarm to wiggle around was heightened by the rear shocks, which did not dampen adequately. If the shock springs were set on the softest of their three preload positions, the rear of the bike would pump up and down several times after a large bump or deep dip. It reacted the same way if it was tossed hard into a turn; the rear end pumped and the bike wallowed. By leaning the bike into a corner smoothly, the wallowing and pumping usually didn't occur. The wallowing effect was at its worst with a passenger aboard.

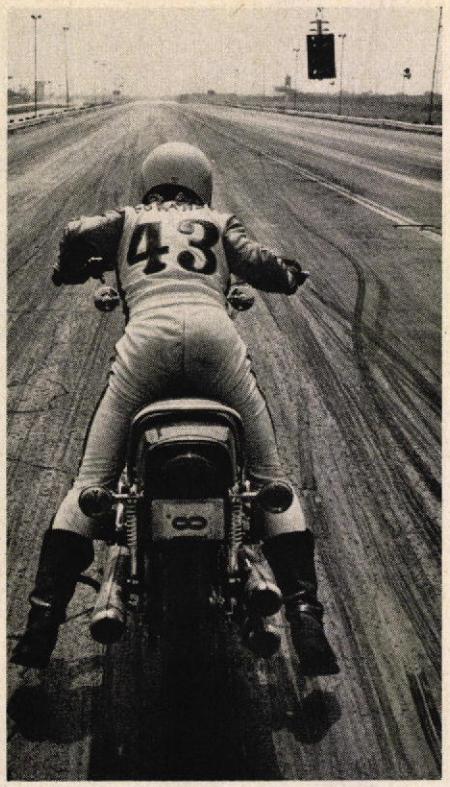
The front forks worked very well, and with the shocks set on soft, both suspensions did a good job of absorbing the small, stuttery sort of bumps and potholes. It was just the larger, deeper bumps that overtaxed the rear suspension when it was







The air intake horn cuts about five db(A) off the Kawasaki's sound level. Each cylinder has its own box of ignition components. The little one on the left contains the ignition system rectifier. The engine is lubricated by oil injected to the float bowls of the carburetors and to the main bearings. You never need to set the H2B's ignition timing because there's nothing to wear out. The three pickups are triggered by a magnet on the rotor as it passes them.



set on soft.

By preloading the rear shock springs all the way, the wallowing would go away almost entirely. The stiff setting worked much better on smooth turns with gradual rolling bumps or dips. But in turns with shorter, sharper bumps, the stiffened rear shocks caused the rear end to dance around slightly. We ended up using the soft or middle position for most solo riding, and the medium or stiff position for riding with a passenger.

We rode the Mach IV around Woody Creek Raceway near Aspen, Colorado and were pleased with the bike's cornering clearance. The circuit is 1.1 miles long with ten turns, three of them sharp hairpins. With the shocks in the softest position we only scratched the pavement twice on the left and once on the right. On the left the sidestand and centerstand touched at about the same time. On the right, the only thing to scrape was the footpeg. And we only grounded in long, fast turns that used up a lot of the suspension travel. With the shocks jacked up to stiff, we only touched the sidestand once.

The Japanese Dunlop tires work very well but wear quickly. They offer good traction on both wet and dry pavement, and the rear tire gives plenty of warning before breaking loose. Under the moderately hard use we were giving it, the rear tire would have been out of tread by 5000 miles.

The bike is equipped with a hydraulic steering damper which is adjusted by turning the knob at the rear of the unit. We tried several settings, but finally elected to leave it on the softest (least damping) position. The bike didn't wobble anyway, and using the damper just made the steering heavier at low speeds.

BRAKING: The H2B stops quite well, despite the fact that neither of its brakes is overly powerful. One reason it stops well is the long wheelbase: In our braking tests and during real panic stops, the bike stayed straight and controllable. And even though the handlebars are rubber mounted, the mounting arrangement is rigid enough that it doesn't impair steering precision during hard braking.

The rear brake is exceptionally controllable and progressive; you can get just the amount of braking you want without locking the wheel accidentally.

It was nearly impossible to lock the front brake, but when the lever was firmly clenched, the front tire would brake to the point of squealing. That's just about ideal because a sliding tire will not steer the motorcycle. The high degree of control that the H2B exhibited during our braking tests allowed us to stop in 128 feet and 4 inches from 60 mph, and 34 feet 10 inches from 30 mph.

The rear brake squealed when it got hot—which only occurred while riding hard around the racetrack. The front brake faded slightly and required more lever pressure under similarly hard treatment.

COMFORT AND RIDE: Despite the rubber-mounted handlebars, a great deal of vibration gets through to the rider's hands above 3500 rpm. The vibration isn't too annoying if you're wearing heavy padded gloves; but in thin gloves or with bare hands, the vibration is fatiguing. It also makes the mirrors somewhat ineffective. We could tell if there was a car behind us and about how far away it was, but we never knew if it was a big or small car, or what color it was. Some of our testers didn't care for the Mach IV's handgrips. They were about the right diameter, but the waffle-pattern ridges on them dug into their hands unless they wore heavy gloves.

The seat and riding position are generally comfortable. Several all-day tours didn't leave us with fanny fatigue. The bars seem lower in relation to the seat than on previous models, and they allow you to support yourself comfortably against the wind. The relationship of the seat, bars, and pegs allows you to move around during long rides, and the seat is long enough to give you a variety of seating locations with a passenger. And very little vibration gets through the seat or footpegs.

The rear of the seat slants upward so the passenger slides forward a great deal when the brakes are applied. Long-legged passengers (over five foot ten) also found the buddy pegs too high for comfort.

The suspension, even with the shocks set in their stiffest position, does a good job of absorbing bumps before they get to the rider. Long rides or rough roads don't leave you feeling beat.

RELIABILITY DURING TEST: Besides the slipping clutch, we had several small problems during the test. When we received the bike, the oil pump control cable was jammed wide open, and the bike fouled two plugs in the 250 miles before we located the cause. After that, we experienced no further plug fouling or loading up.

The speedometer quit working at 965 miles, including the odometer and tripmeter. Calls to Kawasaki and to several local dealers failed to locate a new one. It retails for about $40.

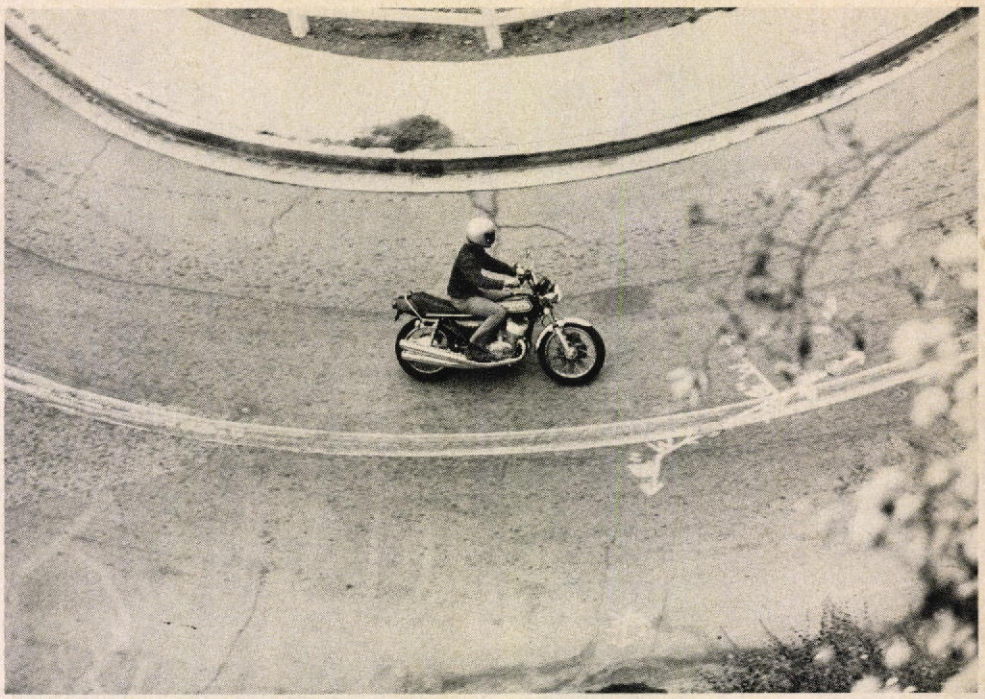
Two little items fell off during the test: the pivot screw that secures the "choke" lever on the handlebars and one of the pins in the remote shift lever linkage. The choke lever stayed in place without the screw, so that didn't present much of a problem. However, it wasn't possible to shift gears without something in the place of the pin in the shift linkage. Our tester was fortunate to be carrying some wire at the time, so he wired it together well enough to get him to a Kawasaki dealer.

The H2B requires very little normal maintenance. Checking the timing with a strobe light indicated that it hadn't changed in about 2900 miles of testing. And despite a lot of wheelies, dragstrip testing, and dyno testing, the chain only needed adjustment about every 1500 miles. The chain oiler works quite well in terms of protecting the chain, but in time it gets the rear end of the bike dirty and oily.

SUMMARY AND CONCLUSION: The Kawasaki H2B is perhaps the best remaining example of the superbike concept—where performance is paramount and very little interferes with it. Its superbike character is manifested in its engine, which has more power and performance than any other 750 street machine, but it does so at the cost of poor gas mileage, considerable noise, vibration, and an annoying surging tendency.

The rest of the bike is less single-minded and more refined than the engine. The added wheelbase has bettered the handling and stability, the comfort is hampered only by vibration through the handlebars, and the brakes give very confident straight-line stopping. We experienced several small problems during the test, but they are more of a reflection of our particular test bike, rather than being indicative of all Mach IVs.

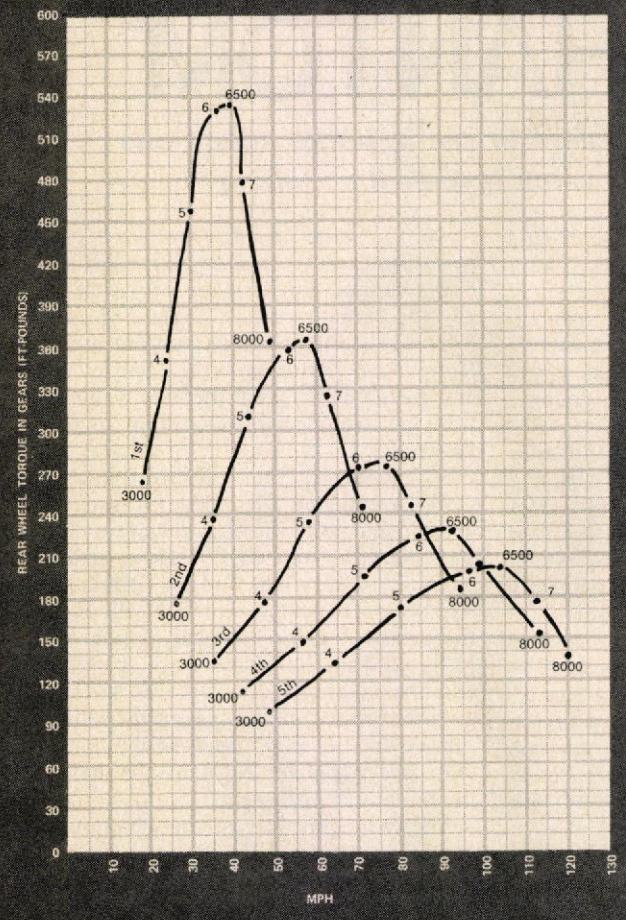
The fact that Kawasaki has let very little interfere with the H2B's performance will put off the rider whose overriding concerns are comfort, maximum refinement, and civility. But the enthusiast who has watched the high-performance machines of a few years ago fade into blandness as they gained refinement will find the Kawasaki Mach IV a refreshing change. Its manners may have improved a bit, but the performance is still there, ready to cut down almost anything at the next stoplight. ***CG***



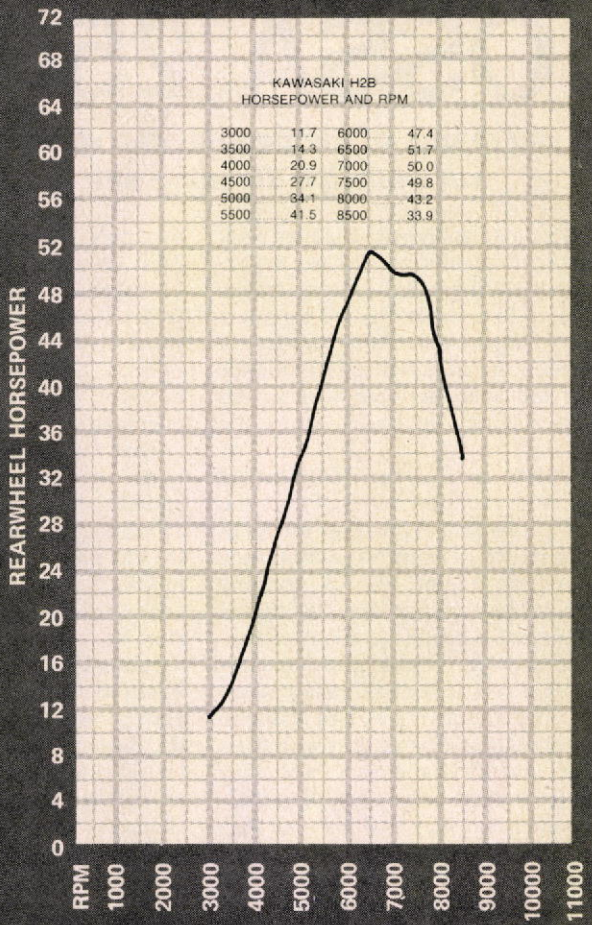
SPECIFICATIONS

Engine type	two-stroke
Cylinder arrangement	transverse vertical triple
Port arrangement	one intake, two transfers, one exhaust
Bore and stroke	71mm x 63mm
Displacement	748.3cc
Compression ratio	7:1
Ignition	magneto capacitive discharge, 3 coils
Charging system	12v AC generator, voltage regulator, zener diode
Carburetion	three 30mm Mikuni slide/needle
Air filter	disposable paper element
Lubrication	oil injection, 2.1 qt. capacity
Primary drive	straight-cut gears, 1.88:1 ratio
Clutch	wet, 7 drive plates, 8 driven
Starting system	kick, in gear only
Transmission	5-speed, left foot shift
Overall drive ratios	(1) 12.77; (2) 8.65; (3) 6.53; (4) 5.41; (5) 4.77
Transmission sprocket	15-tooth
Rear wheel sprocket	47-tooth
Drive chain	⅝-in. pitch, ⅜ in. width (#530)
Front forks	4.9 in. travel
Rear shocks	3.4 in. travel, 3-way adjustable spring preload
Front brake	11.65 in. disc, single action hydraulic caliper
Rear brake	drum, single-leading shoe, rod operated
Front tire	3.25 x 19 Dunlop rib
Rear tire	4.00 x 18 Dunlop K87
Frame	tubular steel, double downtube
Steering head angle	26.5 degrees from vertical
Front wheel trail	4.1 in.
Wheelbase	57.3 to 58.5 in.
Length	84.8 in.
Weight	461 lbs.
Weight distribution	45.8% front, 54.2% rear
Ground clearance	5.6 in. at centerstand
Seat height	33.2 in. unladen
Handlebar width	31.3 in.
Handlebar grip height	43.3 in.
Footpeg height	13.5 in.
Instrumentation	speedometer, tachometer, tripmeter resettable to zero
Gas tank	steel, 4.5 gal.
Gas mileage	30.6 mpg average
Best quarter-mile acceleration	12.96 sec., 101.5 mph
Stopping distance from 30 mph	34 ft. 10 in.
Stopping distance from 60 mph	128 ft. 4 in.
Sound level as per SAE XJ 331a	87.7 db(A)
Suggested retail price	$1845 East Coast, $1825 West Coast

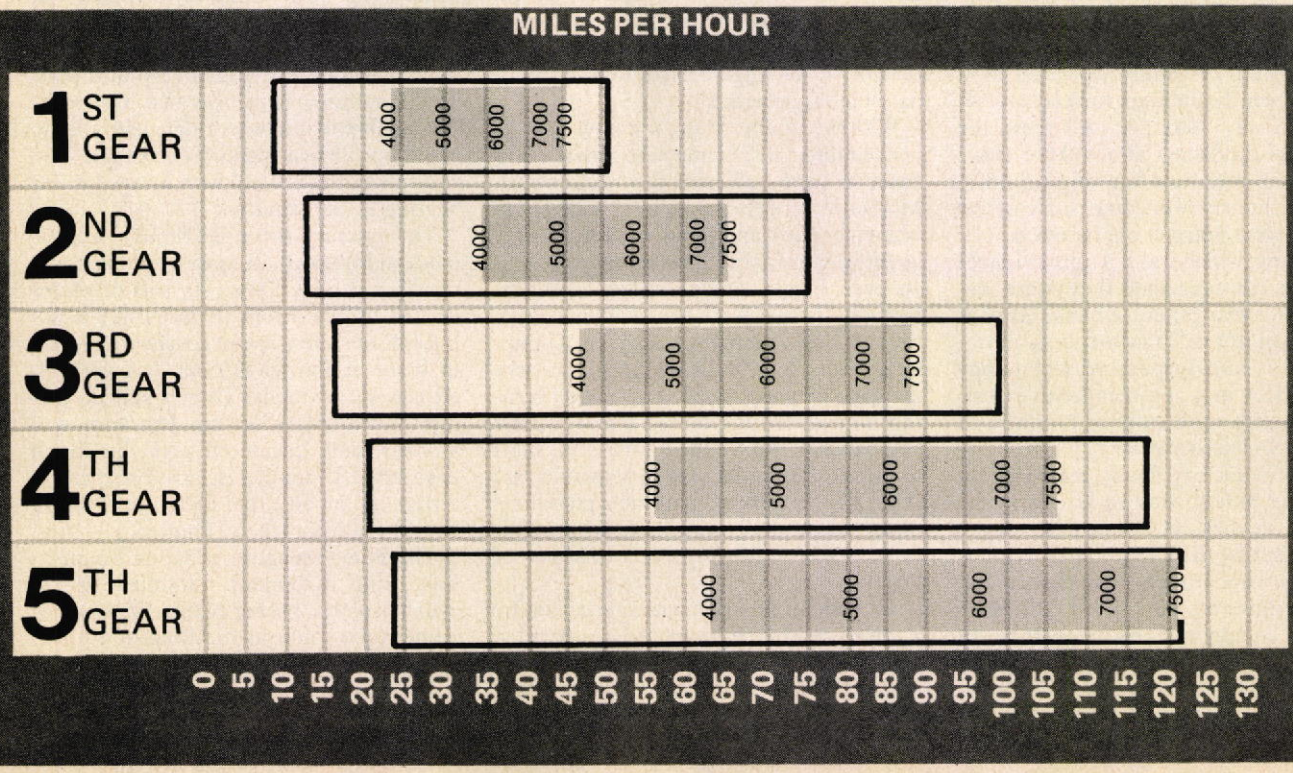
KAWASAKI 750 MACH IV H2B



This graph shows the amount of rear wheel torque available at any speed, at any rpm, and in any gear. Maximum acceleration will be obtained by shifting gears at the points where the consecutive lines intersect.



This graph shows the amount of horsepower delivered to the ground as measured by a Patraco MKIII rear wheel dynamometer. These figures may vary from the manufacturers' claims, or from those obtained on a different dynamometer.



cycle guide

MOTOCROSS TEST

OSSA 250 PHANTOM

If you're one of the people who've waited three years to see it, better check one out while it's standing still; you might not catch it once it's running

OSSA motocross bikes reached the peak of their popularity during the early Seventies, a period when motocross tracks sprouted up like weeds. Piloted by riders like Barry Higgins, once America's fastest motocrosser, the sleek white 250 Stilettos with the full fiberglass bodywork scored countless victories on tracks across the nation.

The OSSAs were easy to ride, handled on a par with the other bikes of that era, and had garnered a reputation for long-term reliability. The most outstanding feature of the engine was its uncanny low-rpm torque, despite the fact that it also generated a healthy amount of top-end horsepower. OSSA motocrossers would lug down as well as most enduro bikes, OSSA enduro bikes had low-end torque normally associated only with trials machines, and OSSA trialers . . . well, they weren't the lightest or best handling trials bikes around, but they had low-end lugging power like a bulldozer.

Since then, the highly-competitive motocross market has been an ever-changing one, but OSSA was reluctant to change at first. In traditional Old World fashion, they sought to refine their existing product, rather than design an all-new one. At that time, all OSSAs shared the same basic frame design; and the lightweight engine, originally designed as a 160, had been bored and stroked to 175, 230, and finally 244cc. At its largest, the engine was producing about three times more horsepower than the original 160.

As more horsepower came, some of the reliability went. Various overstressed parts began failing, which was not unreasonable when you consider that they were designed for a less potent engine. And as for handling, the advancements in motocross chassis and suspension technology left the OSSA in a non-competitive position. In short, people stopped buying and racing OSSA motocrossers.

The OSSA factory finally realized that the existing Stiletto was no longer in the ballgame, so they set about designing a new one. But by then, motocross technology was moving at such a rapid pace that OSSA's engineers had some difficulty getting a competitive bike together on their own. Most of the other companies building motocross bikes had become involved in costly Grand Prix motocross racing programs, and their production machines were exhibiting features and ideas developed on the racetrack. That's an expensive route, and one the small OSSA factory was reluctant to take. Instead, they paid some famous Grand Prix riders to act as consultants and designed a bike according to their recommendations.

That was several years ago, and after much experimentation, many delays, and amidst great expectations, the new OSSA 250 motocrosser is in production. It's called the Phantom, a name perhaps inspired by its failure to appear in this country on any one of several projected dates. But whatever the case, the Phantom is at long last a reality. The OSSA factory has hired John Banks to contest the World GP Championship on a Phantom, the bikes are in the dealers' showrooms, and it appears that OSSA is once again in the business of building competitive motocross machinery.

THE BIKE: The Phantom's chassis is entirely different from any previous OSSA, but the engine is essentially the same. Slight modifications were made to the crankshaft and the components that bolt to it in order to eliminate some problems that often cropped up on earlier models. The crank wheels are now thicker and heavier, which necessitated a slight rework on the engine cases to accommodate the larger crank.

With the smaller crank previous OSSAs needed large, heavy magneto flywheels in order to have sufficient flywheel inertia. Motocross models used a large aluminum wheel; enduro and trials models used a large brass magneto flywheel at first, and an even bigger zinc-aluminum flywheel later on. If there were any sudden, drastic drops in engine rpm (landing from a jump, locking the rear brake, etc.), the massive magneto flywheel would try to keep turning. Sometimes this caused the Woodruff key between the flywheel and crankshaft to shear; but often, the key would *not* shear, so the flywheel and the right wheel of the three-piece crankshaft would continue rotating, twisting the crank out of alignment.

This whole situation was aggravated by a spring-loaded primary drive, called a cush drive, mounted on the left end of the crank. The cush was supposed to absorb any sudden jolts in the drivetrain, but it was designed for a smaller, less powerful engine. In effect, the cush just permitted excessive primary drive lash; it didn't cushion the driveline very well at all, and sometimes only magnified any flywheel shearing or crank twisting problems. These problems never occurred in any great numbers, but they would have with the increased power output of the Phantom.

By increasing the crankshaft mass, OSSA eliminated the need for such a heavy magneto flywheel. A much smaller Motoplat solid-state CDI unit lives on the right end of the crank, and the cush drive has been removed completely, allowing the primary engine sprocket to bolt directly onto the left crank drive shaft. In addition, making the crank wheels thicker gives the pressed-in crankpin more friction surface area in each wheel, so the crank will have a greater resistance to being twisted out of alignment.

Elsewhere, the rest of the Phantom's engine is pretty much the same as previous models. The bore and stroke remain at 72mm and 60mm, respectively, which works out to 244cc. The cylinder and head have wide, massive cooling fins, making the top end look more like a 400 than a 250. The port timing is different, but the porting layout is typical OSSA simplicity, with one intake port, two medium-size transfers, and one exhaust port. The Tarabusi piston uses two .040-inch-thick unbreakable wire rings, and a large caged needle bearing at the wrist pin. The connecting rod is fitted with a caged roller bearing at the crankpin.

The primary drive is through a double-row Joresa chain, into a compact wet clutch that now houses six sets of plates instead of five. From there, power is delivered into a five-speed gearbox identical to those in former OSSAs, but with an all-new set of ratios. There's still no primary kickstarting, so the Phantom will kickstart only in neutral with the clutch engaged. A 12-tooth transmission sprocket arrives on the bike, but there are 11-tooth and 13-tooth sprockets supplied as spares.

The Phantom sports a 36mm Spanish-built Bing carburetor, mounted to the cylinder with a rubber manifold. Another rubber tube connects the Bing to a fiberglass airbox under the seat, which houses a large, paper, throwaway filter.

The downswept-upswept expansion chamber has a long piece of round steel

PHOTOGRAPHY BY ART FRIEDMAN AND PAUL DEAN

rod welded along its lowest portion. Although not as effective as a skid plate, the rod minimizes the number of dents and flat spots that usually accumulate on a low pipe. An unusual removable silencer forces the exhaust gases to make two U-turns before exiting.

The Phantom's chassis provides most of the trick motocross goodies. There's an all-new, double-downtube, double-cradle frame made of seamless thinwall chromoly 4130 tubing, which is quite a contrast from the mild steel pipe normally used in OSSA frames. The frame layout is conventional, but the Phantom boasts the industry's first standard-equipment aluminum-alloy swingarm. That one item alone saves several pounds of unsprung weight at the rear wheel. An all-new Dural aluminum conical rear hub further reduces unsprung weight at the rear, along with a new-style "shoulderless" Akront alloy rim. A 4.50 x 18 Pirelli motocross tire is standard on the rear wheel. The single-leading shoe brake is rod-operated by a neat, forged aluminum pedal that uses the right engine case as an upper locating stop. A pair of fat Betor shocks with five-way adjustable spring preload cams provide 4.0 inches of rear wheel travel.

Up front, Betor forks allow 6.6 inches of wheel travel and provide both compression and rebound damping. The forks appear to be the same basic units used previously by OSSA, but with the aluminum sliders turned down to save weight and double axle clamping bolts at each side to give the front end greater resistance to twisting or flexing.

The front hub is about the same as the one used on OSSA trials bikes. Small and light, it uses a thin ring of steel around the spoke holes to keep the spokes from pulling through the hub flange. A single-leading shoe brake, shoulderless Akront alloy rim, and 3.00 x 21 Pirelli motocross tire round out the front wheel.

The Phantom is the lightest production 250 motocrosser we've seen yet. It weighs 197 pounds dry; with a tank of gas and with oil in the gear box and forks, it will reach about 213. Its 2.1-gallon fiberglass fuel tank and fiberglass fenders aren't as light as they could be, but everywhere else the theme is lightness—right down to the Dural aluminum foot levers and brake cam arms. Even the serrated folding footpegs have all the excess metal trimmed from their undersides. The seat is about 1.5 inches higher than usual, but the padding is thick and well-shaped.

The bike looks lithe and light, with lines vaguely reminiscent of a works Suzuki. The deep metallic blue paint contrasts sharply with the bright red trim, giving the bike a strikingly attractive appearance. The bike is finished and assembled with a slightly higher degree of workmanship than most previous OSSAs. The welding isn't very sloppy, the paint is super-glossy, and the forged components are neat and finished looking. One exception is the flat black paint on the hubs and fork triple clamps: either the surfaces weren't prepared properly, or the paint doesn't like the aluminum. Whatever the cause, it had already begun flaking off these parts when we took the bike out of the crate.

ENGINE AND GEARBOX: Starting our test Phantom was a one-kick affair, whether it was hot or cold, just after a fall or a stall, or with the right foot or left. One prod on the left-side kick lever always brought the engine to life. Once it's running, the engine doesn't need much warm-up. It carburetes well after the first couple seconds' running.

We immediately noticed how quickly the Phantom revs when you race the engine. It literally explodes from idle up to a high rpm as you tweak the throttle. Much of this suddenness is due to the super-quick throttle twistgrip, a new plastic Amal item that requires little more than ⅛ turn to get the carburetor wide open. A small rotation of the twist grip nets a comparatively large increase in the throttle opening.

The engine also revs quickly because the crankshaft has less overall flywheel inertia than before, and there's more power on tap. The Phantom pulls well from low rpm in the first two gears, but in third, fourth, or fifth, wicking the 36mm Bing wide open below 5000 rpm will result in either a mild bogging or lazy acceleration. The fat part of the power range begins between 5000 and 5500, and the bike accelerates strongly up past 8000 rpm. The engine will rev easily to 9500, but shifting between 8000 and 8500 yields the best acceleration.

So far, it sounds like we're describing a peaky, explosive, hard-to-ride motocrosser, but that's not the case at all. The transition into the powerband around 5000

rpm is noticeable, but it happens smoothly and over a fairly wide rpm spread. As a result, you don't experience a violent surge of power at that point. On dirt, that gradual transition only causes a slight amount of wheelspin. On pavement, like during our decibel testing, it was difficult to keep the front wheel on the ground during wide-open acceleration. In every gear but fifth, the wheel shot skyward as we attempted to run past the decibel meter at full throttle. It's a good thing the Phantom isn't a pavement racer; if it were, you'd have to learn unicycling in a hurry, because that's what it does on asphalt or concrete. On a dirt racetrack surface, the Phantom doesn't show any tendency to do unwanted wheelies; you can whack it wide open and use its full power supply.

In a flat-out drag race, there are a couple other box-stock 250 motocrossers that might—just *might*—outrun the OSSA, but around a motocross course, it will run with any 250 available at present. And it will run *away* from most of them. The quickness of the engine rockets you out of a corner in a hurry, and without a lot of the wheelspin or fishtailing you get with some other powerful motocross bikes. And because you get such a good shot out of the corners, the bikes you're racing against have a hard time keeping up with the OSSA on an average motocross straightaway, even though they may have more power. Some of the bikes that edge out the Phantom in a drag race can't beat it from corner to corner.

Like most current motocross bikes, the Phantom cuts the fastest laps if you shift it a lot to keep the engine in the meaty part of the powerband. If you're one gear too high through a corner, the bike will accelerate at a comparatively slow rate for a few feet until it nears the powerband. Then it shoots you ahead in the direction you're aimed, quickly, but controllably. If you're one gear too low in a turn, the high-winding engine has enough top-end power to accelerate the bike decently until you can upshift.

If you like smooth-track TT racing, the Phantom's engine is up to the task. It has enough mid-range power to get the bike through and out of sharp, tight corners, as well as the fast, sweeping turns. And its acceleration makes it competitive on the straights. Again, the Phantom's controllable power makes the big difference. It lets you start accelerating out of the turns sooner, knowing there won't be a big, sudden blast of horsepower to get you out of shape.

The gearbox ratios are nicely matched to the engine's powerband, so it's easy to stay in the right rpm range. You need first gear for starting, but after that you rarely need to downshift past second. The shift mechanism works positively, and the shift lever is easy and convenient to operate without ever getting in the way of your left boot.

The clutch worked nicely *most* of the time, the only exception being when we held it disengaged for more than 10 or 15 seconds. On those occasions, it heated up, causing the friction linings to swell; consequently, the clutch started dragging. If we shut the engine off for a few minutes, or rode for a lap or two, the clutch returned to normal without needing any adjustment. This happened less frequently as the test progressed, leading us to believe that it will go away after the clutch plates wear in sufficiently.

The Phantom's silencer does only a fair job of quieting the exhaust note, and there's a noticeable intake roar at wide throttle openings. The bike passed our sound level meter registering a loud 96.9 decibels.

HANDLING: We've made frequent mention of how easy it is to control the Phantom's power in corners, but not all the credit goes to the engine. Without an equally well-designed chassis, the engine would be much harder to control.

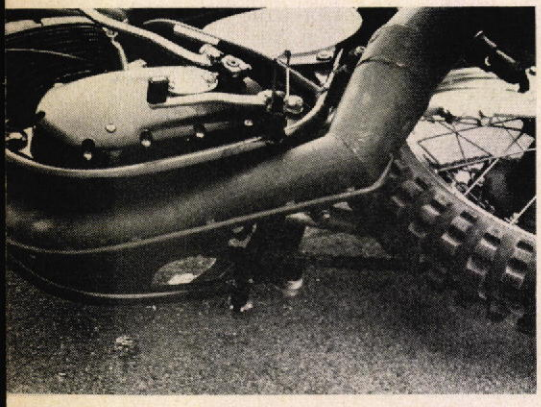
Only 43.7 percent (86 pounds) of the Phantom's weight rests on the front wheel; 56.3 percent (111 pounds) is on the rear. The steering head is rakish, at 31 degrees, but at 4.5 inches, the front wheel trail is less than on the current crop of go-fast motocross machines. And the average wheelbase of 55 inches leaves the OSSA an inch or two shorter than those other bikes.

Before we rode the bike, these specifications led us to estimate that the Phantom's handling would be very quick, perhaps at the sacrifice of some high-speed stability. We were half right (or half wrong). The bike *is* quick, nimble, and maneuverable at low and medium speeds. But it is *not* unstable at high speeds. In fact, it's just about as stable and predictable as the Honda CR250 Elsinore, a bike reputed to have incredible straight-line high-speed stability.

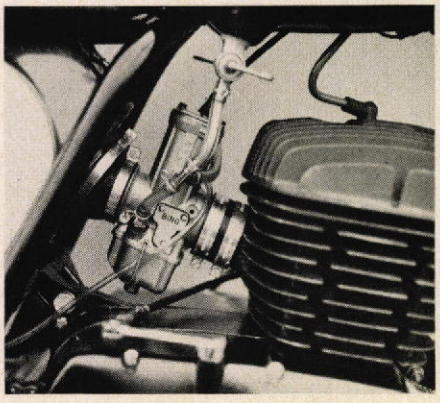
The Phantom behaves a lot like an Elsinore in many ways; but in other ways, it is quite dissimilar. The biggest difference between the two is the Phantom's ability to sneak quickly around tight, short corners that give the Honda problems. This includes slow, sharp, U-turns. And most incredibly, the OSSA rounds these corners without the slightest hint of front wheel washout, even if you don't slide all the way up to the front of the seat. With most current motocrossers, you have to get right up on the rear of the gas tank while cornering, or else the front wheel will wash out. On the OSSA you can sit anywhere on the front two-thirds of the seat and the front wheel will still stick like glue. And that holds true on all types of dirt terrain.

We were really impressed with the Phantom's ability to go around corners any way we chose. On motocross terrain, it slams off berms perfectly; just gas it when you get to the berm and the bike shoots straight ahead, out of the corner. And it shows almost no tendency to sit up straight too quickly. Or, if you prefer the Rolf Tibblin-approved cornering method, the OSSA does that equally well. Rolf likes to see motocross riders go in straight lines; that means accelerating and braking in as straight a line as possible, squaring off most of the slow corners on the very inside. As light as the OSSA is, flicking it around in almost its own length is easy.

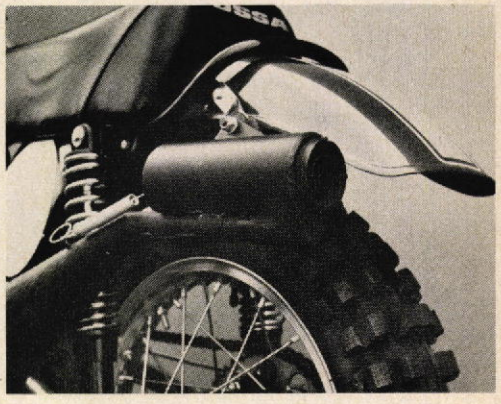
On a smooth motocross corner, or a smoother yet TT corner, the Phantom



The steel rod welded along the bottom of the expansion chamber helps keep the pipe from getting dented.



The lightweight 36mm Bing carburetes cleanly throughout the entire rpm range.

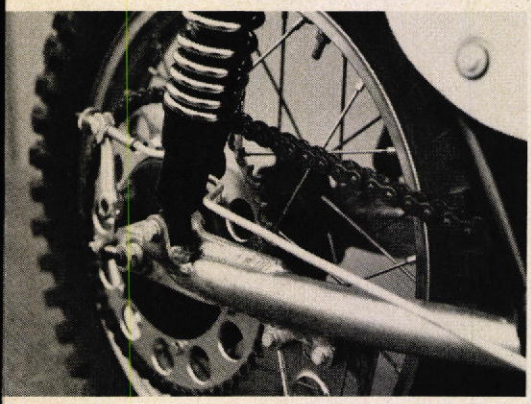


The exhaust gases must make two U-turns before leaving this silencer, but they're still making quite a lot of noise when they emerge.

broadslides like a thoroughbred flat-tracker, knobby tires and all. It never tries to high-side when it's crossed up and under power. All you have to do is steer the front wheel and turn the throttle; the chassis does the rest. You can slide controllably on the outside of the turn in the loose dirt, or equally well on the inside, where the dirt is packed much harder. And best of all, if you happen to hit a hard-packed spot while you're sliding in loose dirt, you can barely tell. Some bikes will sit up straight and try to spit you off when this happens, but the OSSA doesn't seem to mind at all.

The light front end gives the bike a natural front-high attitude during its flight from big jumps. You don't have to do any special throttle twisting to keep the front up as you leave the ground, nor do you have to climb back on the rear fender. Just shift your weight rearward as you leave the jump, roll the throttle off, and the bike will land rear wheel first, with the front wheel just a few inches off the ground.

The Phantom handles well in deep sand, again probably due in part to the lightness of the front end. The front wheel skims lightly over top of the sand, touching only enough to steer the machine. The Phantom works so well in this terrain that OSSA plans to market a desert version later this year. It will have a slightly longer wheelbase, higher overall gear ratios, and more flywheel inertia, among other things.



Two firsts: OSSA's first rod-operated rear brake, and the industry's first aluminum alloy swingarm.

The Betor front forks are really good. They soak up just about anything you're likely to ride over without bottoming heavily. And best of all, they insulate your hands and arms from the up-and-down pounding of the front wheel. We only bottomed the forks when we purposely landed on the front wheel, but even then, they bottomed rather gently.

Too bad the rear suspension isn't equally efficient. The big Betor shocks appear to have way too much compression damping, and the springs are too stiff, even on the softest preload setting. If you sit down while going over rough ground, the rear of the bike behaves fairly well, although not as nicely as the front. But when you stand up, the seat comes up and whacks you in the fanny every time the rear wheel hits an abrupt bump. The shocks also make the rear wheel a little skittery while turning if the corner has come heavy ripples in the surface.

Strangely enough, even though the rear shocks caused the back wheel to pop up in the air when it hit a sharp bump, the back end very seldom bounced from side to side. We only experienced a side-to-side hop a few times when the bike was leaned over and the rider was standing up while going over some very choppy bumps. First the rear end danced several inches to one side, and when the rider corrected, it skipped an equivalent amount to the other side. It did this several times in rapid succession, then stopped as the bike was returned to a vertical position. Otherwise, the rear wheel always tracked perfectly.

COMFORT AND RIDE: If the person responsible for designing the Phantom's seat is a motocross racer, he must do a lot of sitting while he rides, because it's the plushest, most comfortable seat we've seen in a long time. When you first straddle the bike, you immediately notice the 34-inch height of the seat. That's about two inches higher than normal. Even some fairly long-legged riders must stand tippy-toe to reach the ground. After you ride off, you still get the feeling that you're sticking way up in the air. Fortunately, the feeling goes away quickly as you become accustomed to the bike; and the first time you get caught sitting down as you bash over a big bump, you begin to ap-

preciate its thick, well-shaped padding. It cushions the biggest of jolts, and eventually you find that an all-day ride produces no saddle sores.

The tall seat causes you to hunch forward slightly while sitting, because the handlebar grips aren't any higher than average. In fact, they are a little lower than normal. In a way, this seating position is good because it positions the top of your body forward, which is where you need it during acceleration to keep the front wheel from getting too light. It is mildly uncomfortable if you're around six feet tall, but only if you spend long hours sitting down.

Otherwise, the stand-up riding position was perfect for all our testers, big and small. We all prefer footpegs that are well back from the handlebars, and in that respect, the OSSA was right on. And the serrated footpegs never let your boots slip off, even when they're caked with mud.

The only complaint registered about the Phantom's seat was a minor one. When the seat cover gets wet, it gets extremely slippery, making it difficult for the rider to stay in place. The bike accelerates so rapidly that the rider slides way back to the rear of the wet seat when he turns the throttle open, especially if he's wearing leather pants. Most vinyl-covered seats get slick when they're wet, but this one seemed to get especially slippery.

Evidently, the heavier crankshaft assembly has allowed OSSA to balance it more precisely, because the engine is much smoother than in previous years. The vibration never reaches an objectionable level, even at high rpm. A few tingles leak through to the handlebars, but the surgical rubber OSSA handgrips dampen most of them.

The front suspension does a dynamite job of isolating the rider from jolts and bumps, and the steering geometry is such that he doesn't have to fight the bars to keep the wheel aimed. Coupled with the nice handgrips, low vibration level, and good seating and standing position, it means you can ride the Phantom for long periods without getting worn out. You can relax and concentrate on what you're doing, and that's the hot set-up for winning.

The only kick in the pants (pun intended) is the stiff rear suspension, which ruins an otherwise near-perfect chassis. Were it not for the plush seat, the behavior of the rear shocks would often be intolerable.

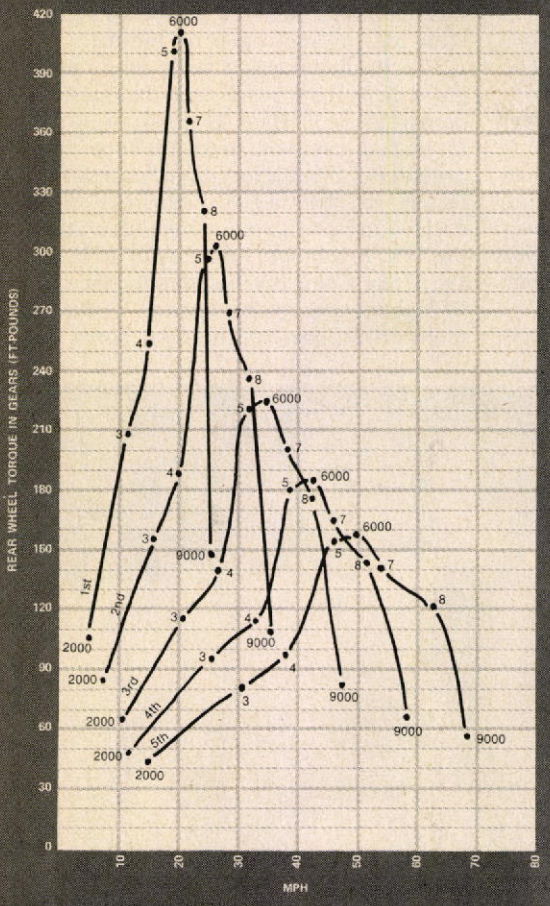
BRAKING: When dry, the Phantom's brakes are superb. They have a progressive feel and are powerful enough to lock the wheels, but they won't do so accidentally. The rear brake, OSSA's first rod-operated one, never causes any rear wheel hopping. We also never experienced any noticeable brake fade during repeated hard usage.

But the brakes lose about half their effectiveness when they get wet. After two

SPECIFICATIONS

Engine type	two-stroke
Cylinder arrangement	vertical single
Port arrangement	one intake, two transfers, one exhaust, piston controlled
Bore and stroke	72mm x 60mm
Displacement	244.3cc
Compression ratio	13.2:1 (uncorrected)
Ignition	Motoplat CDI magneto
Charging system	none
Carburetion	one 36mm Bing slide/needle
Air filter	disposable paper element
Lubrication	pre-mixed fuel and oil
Primary drive	double-row chain, 2.26:1 ratio
Clutch	wet, 6 drive plates, 6 driven plates
Starting system	kick, in neutral only
Transmission	5-speed, left foot shift
Overall drive ratios	(1) 25.95; (2) 19.16; (3) 14.27; (4) 11.67; (5) 9.98
Transmission sprocket	12-tooth
Rear wheel sprocket	53-tooth
Drive chain	⅜-in. pitch, ¼-in. width (#520)
Front forks	Betor, 6.6 in. travel
Rear shocks	Betor, 5-way adjustable, 4.0 in. travel
Front brake	drum, single-leading shoe
Rear brake	drum, single-leading shoe, rod-operated
Front tire	3.00 x 21 Pirelli motocross
Rear tire	4.50 x 18 Pirelli motocross
Frame	tubular chromoly steel, double downtubes
Steering head angle	31 degrees from vertical
Front wheel trail	4.5 in.
Wheelbase	54.5 to 55.5 in.
Length	81.5 in.
Weight	197 lb.
Weight distribution	43.7% front, 56.3% rear
Ground clearance	8.25 in., at expansion chamber
Seat height	34 in.
Handlebar width	34.2 in.
Handlebar grip height	42.6 in.
Footpeg height	13 in.
Instrumentation	none
Gas tank	fiberglass, 2.1 gal.
Sound level as per SAE XJ 331a	96.9 db(A)
Suggested retail price	$1375 East Coast $1385 West Coast

OSSA 250 PHANTOM



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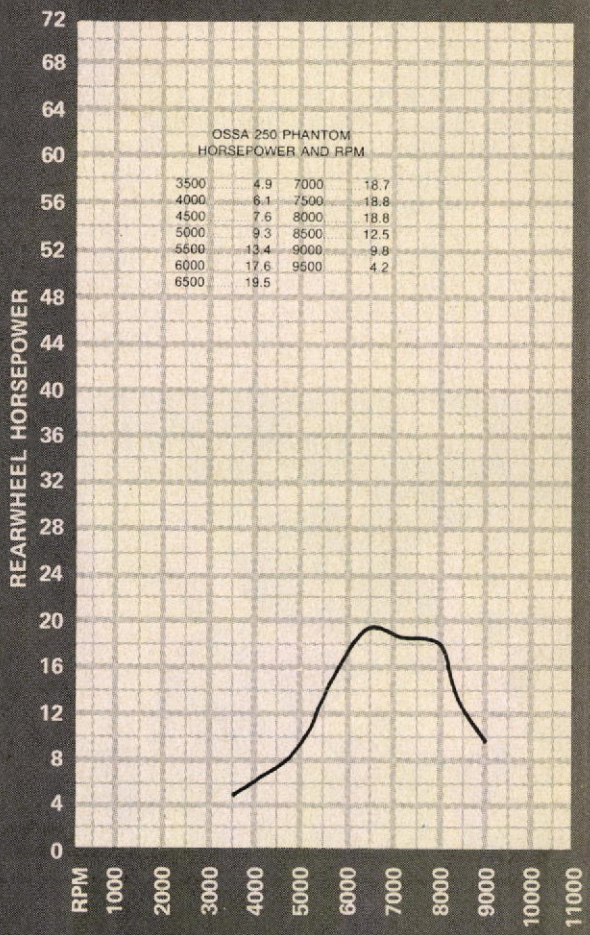

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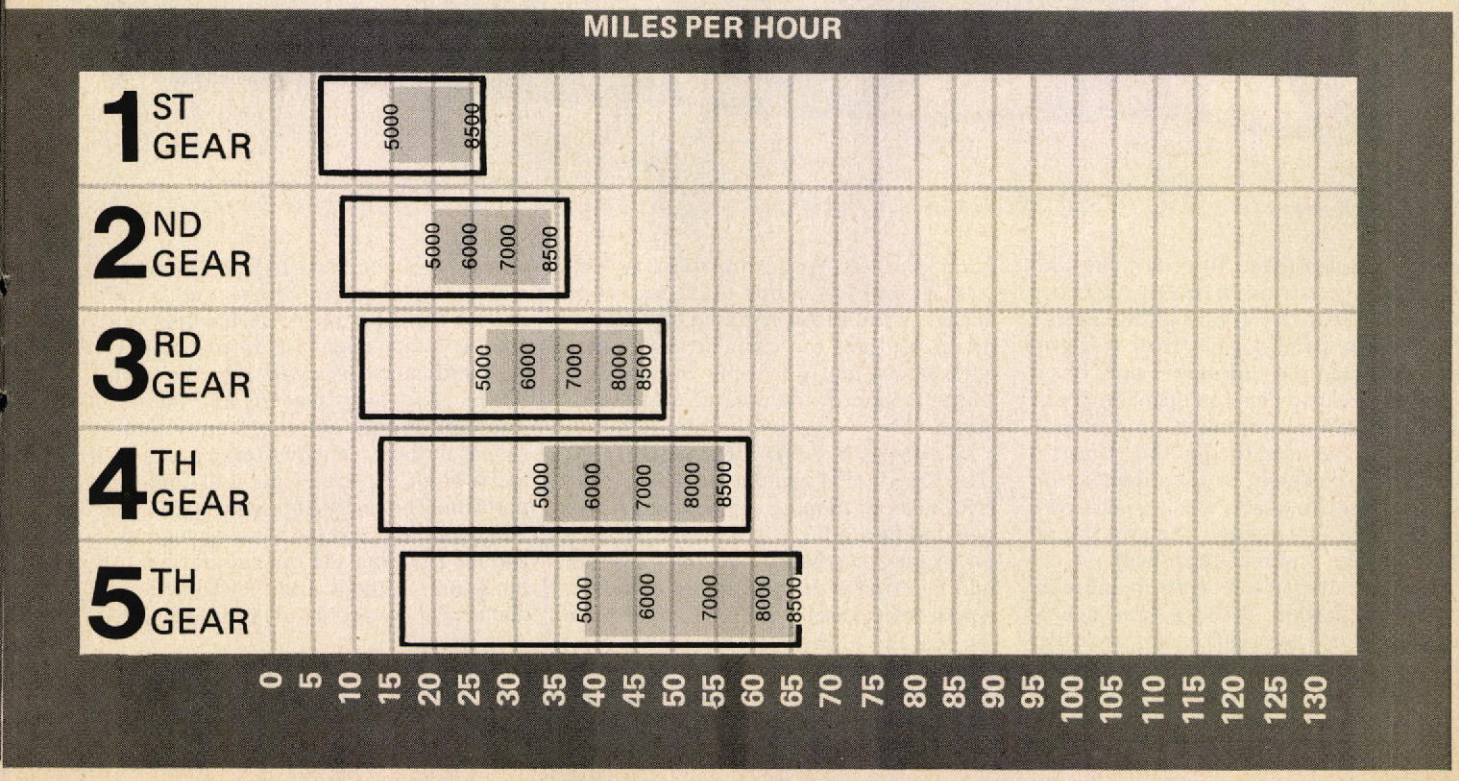


less-than-axle-deep water crossings, we had to really stomp on the pedal and squeeze the lever to get the bike stopped. However, they dried up almost as quickly as they got wet, and their full effectiveness returned. And speaking of the rear brake pedal, it's easy to reach, your foot doesn't slip off it, and it's tucked in where it won't get caught on anything.

RELIABILITY DURING TEST: The Phantom comes equipped with a disposable paper air filter element, but like all such elements, it doesn't like water. After a few shallow water crossings, water got into the airbox and clogged the filter, causing the engine to stall. We got it dried out and running again, but the next time, the water passed through the filter and into the carburetor. The bike definitely needs an oiled-foam filter element, and the airbox needs to be sealed off better where the rear fender and airbox meet.

The new, trick, plastic Amal twistgrip really worked the carburetor well, but it refused to stay in place on the handlebars. It was continually rotating on the bars, or sliding out toward the end. Once, it came off completely, causing the rider to crash. Since the plastic won't cinch down on the bars tight enough, the grip should have a more positive attachment.

The bike desperately needs an unbreakable front fender. The first time one of the testers fell, the rigid fiberglass fender broke. We replaced it with a new one, which broke on the very next fall. Both falls were hard, but the fenders have virtually no flexibility at all and can crack easily, even in a mild tip-over.

We lost one of the springs holding the silencer in place during the first five minutes of the test. Both springs have a big round loop on their forward end, through which you hook your finger while installing the springs. When installed, the loop on the innner spring was between two coils of the left rear shock absorber spring. The first time we hit a sharp bump, the movement of the shock snapped the silencer spring off the pipe.

The right fork leg on our test bike had a leaky breather vent in the fork cap nut. Throughout the test, it drooled oil all over the triple clamps and fork leg. We tried stretching the check ball spring in the vent, but to no avail.

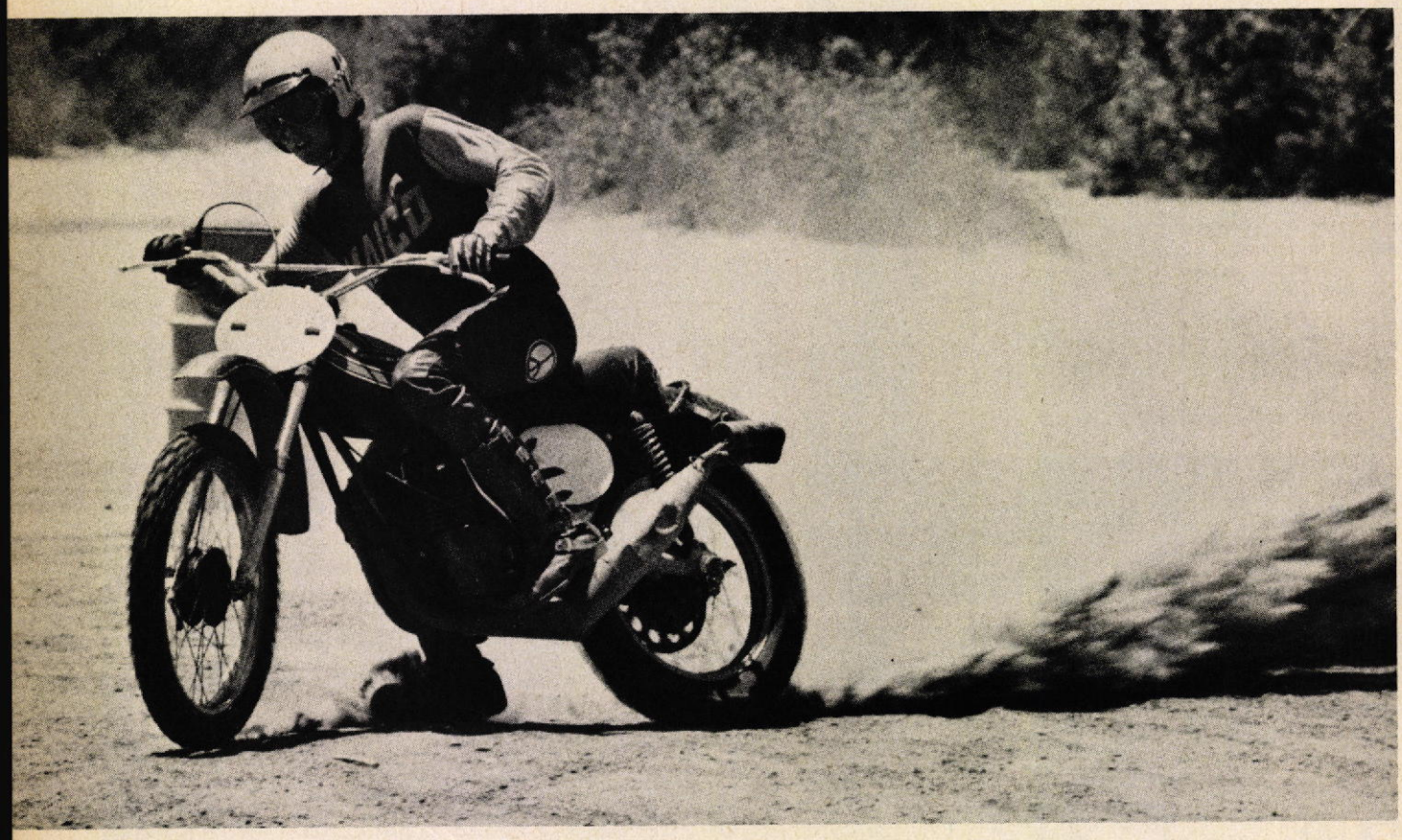
Otherwise, the Phantom worked nicely during the test. Except for the fork vent leak, it never lost a drop of oil, and none of the control cables required any adjustment. We gave the chain several minor adjustments, but they only consumed a small fraction of the useable adjustment range.

SUMMARY AND CONCLUSION: The OSSA 250 Phantom has a very powerful, smooth running engine competitive with the fastest bikes in its class. It has a high-rpm powerband, but the transition into the band is gradual and non-violent. A well-selected set of gearbox ratios make the best use of the engine's power.

It also handles remarkably well over all different types of terrain and around all types of corners, partly because of its sub-200-pound weight. The front suspension is superb, while the rear suspension is too stiff. The bike is extremely comfortable and easy to ride, and the brakes work nicely as long as they don't get wet.

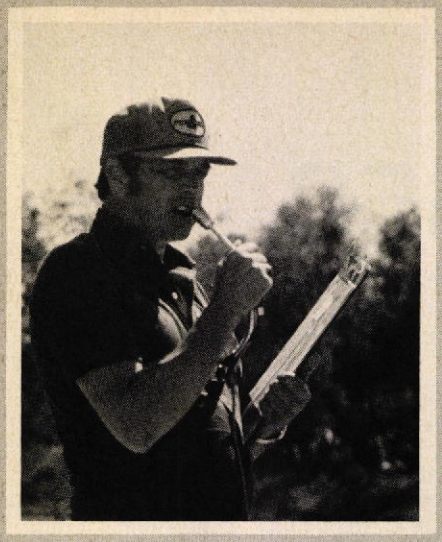
The Phantom's fenders crack and break too easily, the paper air filter clogs at the sight of water, and the plastic twistgrip often loosens and comes off the bars.

The Phantom was a long time coming—almost three years since the original design—and some dyed-in-the-wool OSSA lovers had just about given up hope. But development took a long time because the factory set their sights high once they decided to build a competitive bike. And the U.S. distributor, John Taylor of Yankee Motor Company, had told the factory he wanted nothing less than a "perfect" motocrosser, one he would be proud to sell and feel confident to stand behind.



Well, the Phantom is here, and it isn't perfect. But the areas in which it falls short are ones that even the worst-equipped backyard mechanics can remedy themselves: air cleaner, fenders, and the like. The rear shocks are the factory's only serious mistake, and it will take about $60 and a bit of experimentation to cure that problem. The really important items, like the powerband and the steering geometry and the handling and the lightness—those things are all there, and they function as damn near to perfect as any bike we've ever tested.

You're going to see quite a few Phantoms at the racetracks from now on. If you're a racer, you may be seeing quite a few of them from behind. ***CG***



RUSS SANFORD AND M.O.R.E.

The self-appointed defender of motorcycling

by Ron Schneiders

A few years ago motorcyclists had only minor things to worry about, like being run over by a stone drunk in a pink and chrome Cadillac, or run out of town by the cops who always confused you and your Tiger Cub with Brando and his Harley Hog. Motorcycling was kind of a survival microcosm with simple rules: Learn to cope or buy the farm. Now that the politicians have become aware of motorcyclists as an identifiable group, it's different. We have become a part of their game, like Monopoly houses. To maneuver us, the politicians don't have to know any more about us than a kid has to know about the plastic manufacturing processes that result in Monopoly houses, and as a result, we've been pushed all over the board in some places and virtually swept off the board in others, often as not in pure, unsullied ignorance. But it hasn't happened everywhere.

In California there has been less adverse legislation passed than in most states. In spite of repeated attempts by bubble-headed legislators who think helmet laws are absolutely necessary, California doesn't have any. To date, Californians are unafflicted by either the compulsory insurance blight or the no-fault hype. A large portion of California land is still open for riding. Although California has had its share of really bad legislation proposed, the number of these dope-dream downers that have actually passed is relatively slight. Compare the California scene with Massachusetts and New York with respect to insurance, for instance. Or Indiana with respect to land use, or almost everywhere with respect to helmets.

Giving credit where due, it was the Hells Angels who originally saved the California scene. When the California legislature met to consider the helmet question in their oak-shaded imitation of Capitol Hill, suddenly, there were the Angels, as real as chains and boots. No legislator will admit to being intimidated, but that day they voted with the Angels. Shortly thereafter, the Nixon-Reagan forces of law and order dealt with those scurvy devils in the same stark manner that they found effective in dealing with Kent students, SLA radicals, Black Panthers, white kids, and Southeast Asians. Which is to say they killed as many as possible and put the rest in jail. Some year the survivors will be tried, probably for the crimes of being foul-mouthed and dirty. In the meantime, however, California motorcyclists were left with no defenders in Sacramento's hallowed halls.

In 1969 Russ Sanford appeared on the scene with all the fanfare of a pine seedling busting through the snow in a Montana forest. He was the lobbyist associated with an acronymed organization called MORE: Motorcycle Owners, Riders, and Enthusiasts. The origins of MORE were enveloped in mist. There was a rumor to the effect that, after a close brush with death followed by the traditional miraculous escape, Russ Sanford decided to devote his life to the preservation of motorcyclists' rights. Russ Sanford's legislative doings were chronicled—by himself—in Cycle News, *a weekly newspaper. But the verbal dung of politicians makes pretty poor reading even when translated by a talented writer, and Russ Sanford is no Galbraith. Few people really read his articles. Still, everyone who was involved in cycling gradually became aware that there was someone who was fighting The Good Fight in Sacramento, even if not many of them knew exactly what he was doing. His name and organization became at least well enough known that a mention of MORE did not require an explanation.*

I knew Russ a little bit. A couple of years back we had gone trail riding in the El Dorado mountains and finished off a fine, easy afternoon of riding by shooting about 67 games of eight-ball and getting blind, beer-stupid drunk in a funky old Georgetown miners' bar. Another time I spent the night at his home in Sacramento and we rapped about things vaguely related to motorcycling. MORE at that time was being run out of the Sanford home and about half of his moderately small house was given over to MORE paraphernalia. I remember that he had just that day acquired a machine, a copier or Addressograph or some such, and was happy as a kid at the prospect of being able to eliminate some of the drudge work. He had wanted it for a long time. Russ had two daughters at home and two older sons, one in the Navy and one in college.

Whatever else Russ might have been, at that point in his life he was not into making money. He didn't own very much and what he did own had been around for awhile. His motorcycle, a Bultaco Sherpa T, was older than mine, putting it about into puberty, and his station wagon odometer was on its second time around. Oddly enough, he didn't seem really into motorcycling either. The afternoon that we spent riding was the only riding he did for a year in either direction, and as might be expected, he was an indifferent rider at best. As a warrior in the service of motorcycling, he was about as convincing as radical Jane Fonda the year they made Barbarella. I wondered at the time what sort of a trip he was on, but when there is one person standing between you and the alien horde, you don't interrupt his business with silly questions about motivation.

As time went on, Russ and I had other less friendly contacts. We disagreed over some issues, and in 1973, during the brief existence of MORE National, I wrote some sharply critical articles and drew some equally sharp replies.

MORE National was to be a motorcyclist's version of the Auto Club, with insurance, credit unions, lobbying functions, public relations, free toys for the kiddies, and a chicken in every pot. MORE National (the name was quickly changed to MORE America) was the sort of thing that could be a good deal if it were properly funded and managed or, alternately, a giant rip-off for short-term capital gains. Handsome (and expensive) booklets were mailed to prospective members offering a piece of the action for anywhere from $2,500 for a founding membership down to $4.50 for kids' memberships. (MORE membership previously was $1.00). Half a dozen flakes who had been around the

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cycle guide

ROAD TEST

YAMAHA TX650A

This year's TX650 gets an A on its name . . . and a C+ on its report card.

Multi-cylinder super-bikes have evolved into machines that can handle almost as well as twin cylinder bikes, even though the multis are wider, heavier, and have a higher center of gravity. Even so, heated debates still take place all around the world as to which design, twin or multi, is the best.

All the pros and cons of multis have undoubtedly been considered by Yamaha, but they have stuck to their twin-cylinder guns. Instead of taking a big jump into a three- or four-cylinder touring machine, they have elected to refine their present line of twins.

Since its inception in 1970, the Yamaha TX650 twin has been battling for positive recognition. It has sold well and has been one of Yamaha's most reliable models. But the original XS-1 had some unusual handling quirks that have been part of the bike since the beginning. Some riders never let the 650's wiggling and wobbling bother them; but others, whose level of tolerance was much lower, confessed to never feeling quite confident aboard a 650 Yammie.

This year's 650, called the TX650A, has gone through some frame and suspension changes that are major enough to qualify the chassis as being all-new. Yamaha made these changes in an effort to rid the 650 of its unusual handling traits, which, in turn, would clear up any blemishes on the bike's reputation. Since the primary advantage of a twin is its supposedly better inherent handling, the TX650 would not be considered a true success until it overcame its inhibited road behavior.

THE BIKE: Our test bike, the Yamaha TX650A, uses the same basic powerplant as last year's TX650. The narrow, very tall engine retains its slightly oversquare 75mm bore and 74mm stroke, which give it a total displacement of 653.8cc. The compression ratio has been lowered to 8.4:1.

Straight-cut primary gears transmit power from the 360-degree crankshaft to the large, multi-plate wet clutch and five speed gearbox. The gear ratios are close together and evenly spaced, so no big rpm drops occur between shifts.

A single-row chain drives the overhead camshaft, and dual 30.6mm Mikuni-Solex constant-velocity carburetors supply the gas mixture to the engine. A two-piece airbox mounts under the front portion of the seat and houses a pair of washable, oiled-foam elements. Another piece of foam is placed behind each element to filter out the big pieces. An easy 90-degree turn of the wing-nut knob on either side panel gains access to the filters.

The Yamaha uses a conventional battery/coil ignition system. Dual breaker points mount at the left end of the overhead cam, and a massive AC generator hangs on the left end of the crank.

A panel just in front of the handlebars holds the speedometer (which reads nearly five mph fast at 30 and 60), tachometer, ignition switch and idiot lights.

The 650 uses a double-downtube frame that has a single, large-diameter backbone. Heavy bracing and gusseting have been added to this year's frame to give it added strength and permit less frame flexing.

The bike has a sidestand on the left and a centerstand; it doesn't take much effort to get it up on the centerstand, but you must lean the machine way over to the right of center to get the sidestand down. If you have short legs, or if you're standing on the left, the bike can easily fall over on the right side while you're trying to get the sidestand down.

The TX650A uses alloy rims at both ends, with a 3.50 x 19 Yokohama ribbed tire up front, and a 4.00 x 18 Yokohama universal on the rear. A double-action hydraulic disc brake stops the front wheel, and a single-leading shoe drum brake gives the rear wheel its stopping power. The front forks allow 4.9 inches of wheel travel and the five-way adjustable rear shocks permit 2.8 inches of rear wheel travel.

Chrome fenders, shocks, exhaust pipes, and chain guard, contrasting with the matte black finish of the handlebar switches and instrument panel, give the TX650A a neat, modern appearance. The four-gallon (last year's was 3.7 gallon) Cinammon Brown gas tank, side panels, and headlight also blend in nicely, but the frame detracts from the bike's otherwise clean overall appearance. It has gussets supporting gussets and frame tubes bracing frame tubes, all held in place by thick, heavy welds. Other than that, the machine's workmanship is well above par, and all the pieces fit together nicely.

ENGINE AND GEARBOX: The TX650A has a wide range of usable power which begins just above idle and lasts to engine redline at 7500 rpm. It builds power smoothly and steadily and there is never a spot in the powerband where the engine comes on all at once. There aren't any flat spots throughout the range either. The bike accelerates best between 4000 and 7500 rpm; maximum horsepower is at 7000 rpm, and the torque peaks at 6000.

This steady pull gives you the feeling that the bike isn't exceptionally fast. We were really surprised when it turned a 14.42-second quarter mile with a terminal speed of 92.2 mph. These figures are close to those of some superbikes we've tested.

To start the engine when it's cold, push down the enrichener lever on the left carb, turn the key on, and push the starter button. After a few seconds of cranking, the engine comes to life. Let it idle for 30 seconds or so, lift the enrichener lever, and you're ready to take off. When the engine is warm, the procedure is the same, except you don't need the enrichener at all. There is also a kickstart system in case of a failure in the electric start system, but it takes a healthy prod to turn the engine over.

Last year the TX650 had a small lever on the handlebars which was hooked to the starter motor and also operated an exhaust valve lifter (which acted like a compression release). Pulling this lever would activate the starter and lifter simultaneously. But the starter cranked the engine over so violently that it often jerked the crankshaft flywheels out of alignment. Once this happened, the already-heavy engine vibrations would become heavier.

The TX650A doesn't have the valve lifter this year, and it uses a starter motor that transmits less torque to the crankshaft so the crank stays in alignment. But it sometimes takes three or four pushes of the starter button before the starter gears engage. The spring in the Bendix starting unit is too strong and won't always allow the starter gears to mesh. The resultant clunking and whirring sounds are terrible.

The TX650A is tricky to get moving from a dead stop, so you have to acquire the knack for smooth takeoffs. This routine can be attributed to a mild lack of flywheel effect and a short clutch engagement span. There is only three-quarters of an inch of lever travel from the point where the clutch is disengaged to where it's fully engaged.

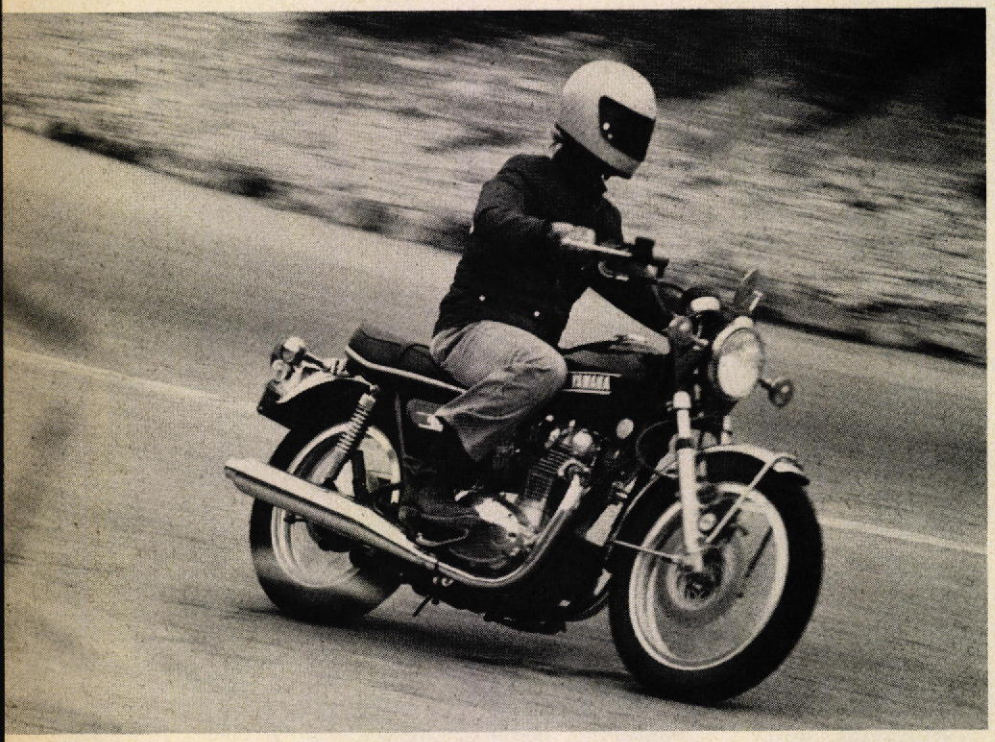
For the smoothest starts, we found that revving the engine to 1500 rpm and letting the lever out very slowly was the easiest way and required a minimum amount of clutch slipping. If the engine rpm was below this point, the bike would chug and surge and sometimes stall when the clutch

PHOTOGRAPHY BY ART FRIEDMAN

was engaged. If the revs were above 1500, we had to hold the clutch lever within this three-quarter inch engagement area until the bike was moving about 10 to 12 mph.

Once you're underway, the engine won't let the bike run smoothly below 10 mph. It chugs and jerks, so you must continuously slip the clutch to keep the engine from stalling. This chugging is caused by an excessive amount of slop in the drivetrain, the constant-velocity carbs, and the lack of flywheel effect.

The Mikuni carburetors aren't as temperamental as the Keihin units on the TX500, but the bike idles erratically and often surges when the throttle is held in one position. Although we adjusted and readjusted them, they still didn't perform perfectly.



Above 10 mph the engine works well; it never wants to chug or bog out unless the revs drop down below 1500. There is plenty of overlap between the gear ratios, so the engine rpm doesn't drop much between shifts. When you're in the hefty part of the powerband, it's easy to stay there.

The TX650A has enough power to cruise the freeways and open roads easily. There is enough reserve power in top gear to let you move easily with the flow of traffic. For the quickest acceleration to pass slower vehicles, you have to downshift once or twice to get the revs above 4000; but you can also pass comfortably in top gear. At freeway speeds of 55 mph the engine is only turning an easy 3700 rpm in fifth gear or 4200 in fourth.

If you like to play racer on winding roads, you don't have to shift a lot to keep the engine above four grand. Third gear lets you run close to 80 mph without overrevving the engine, and in fourth you can go over 95 mph.

If you're riding into a headwind or up a steep grade, the 650 has plenty of midrange torque available to churn out the miles without the need to downshift frequently.

Yamaha found it necessary to redesign the cylinder head cover for more efficient top-end oiling. However, improperly designed baffles in the cover let oil seep out the breather when the engine is running; and when it's stopped, oil that accumulates in the breather hose falls to the ground.

We liked the gear ratios and overall gearbox operation very much. The shift lever travel is short, and the shifting was always smooth and positive. When the bike was new, we experienced some difficulty finding neutral from first gear. About 50 percent of the time we would miss neutral and end up in second. But shifting from second into neutral was always a no-miss proposition. After the gearbox limbered up, this problem ceased and we never again missed a shift. The clutch took some punishment, but it always acted like it should: It never chattered or grabbed.

The TX650A's gas consumption is one thing that could hinder its long-distance touring. We obtained anywhere from 35 to 42 mpg during the test, with an overall average of 38.3 mpg. This means the bike can go about 150 miles between fill-ups.

HANDLING: The frame has undergone some critical changes to prevent the wobbling that existed on previous 650 Yamahas. First, the swingarm was lengthened an inch and beefed up for more strength and rigidity. The frame is now heavily gusseted around the swingarm mount, steering head, and rear engine mount. The engine has been moved forward 10mm and lowered 10mm to get the center of gravity lower and further forward. The steering head was lengthened slightly, and the fork offset (distance between the steering shaft and the fork tubes) shortened by 13mm, making this distance the same as on the TX750. The TX650A now also uses the same forks as the TX750.

The longer swingarm increased the wheelbase to 56.5 inches. The 650 retains its 27 degrees of steering head angle, but the front wheel trail has been increased from 3.9 to 4.4 inches, due to the shorter fork offset. But even with these new frame changes, the TX650A possesses a strange chassis combination that makes the overall handling really different from the street bikes we've previously tested.

The TX is still a 474-pound heavyweight, and it is still noticeably top heavy. 45.7 percent (217 pounds) of the weight rests on the front wheel, and 54.3 percent (257 pounds) is on the rear.

The high center of gravity adversely affects the bike's slow-speed cornering, low-speed maneuverability, and directional stability in crosswinds. As you go through a slow turn, the bike sits up slightly and heads toward the outside of the corner when you open the throttle. You must make a small, quick steering correction to keep going where you were aimed. The bike doesn't veer off course a great deal, but enough to be annoying.

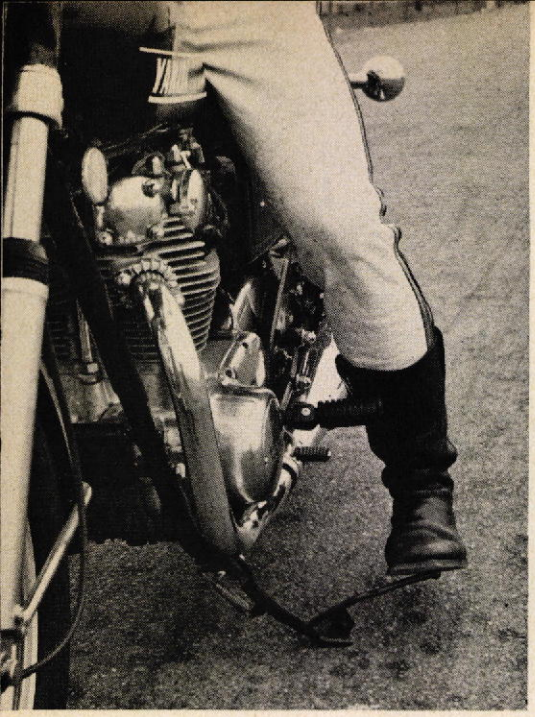
Also, as you creep along in slowly moving traffic, you must continually weave the handlebars from side to side to keep the bike upright and going straight. Often, even this steering technique won't work, so you must dab with your foot to keep from tipping over.

On the road, crosswinds and gusts from passing trucks make the TX tilt from side to side, often causing the bike to wander a few inches off course. With a full tank of gas, the center of gravity is raised, and the bike wanders even further.

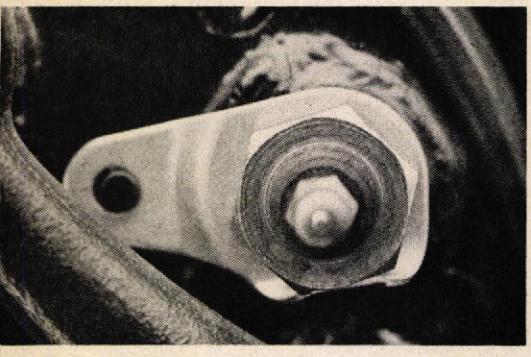
Yamaha stiffened the 650's front forks and rear shocks, which successfully improved its high-speed cornering through smooth turns. The bike never wobbled at high speed nor did it do anything unusual in these turns. You can pick a line through a smooth corner and the machine will follow it precisely.

The footpegs and mufflers are higher this year, so we could lean the bike over much further without encountering premature grounding problems. If you play racer and push the machine to its limits, you will drag the footpegs when rounding smooth, slightly banked turns. Through fast, flat corners, the sidestand will drag when turning left and the muffler mounting bolt scrapes when going right. If you're a more casual rider, you can achieve reasonable lean angles without anything digging into the pavement.

Both tires hold the road well, so there



The sidestand will not swing down to its working position unless you tilt the bike to the right.



You won't find the swingarm pivot nut vibrating loose thanks to the nifty lock tab that keeps the nut in place.

is never a worry about them sliding out or losing traction unexpectedly when you're leaned over. At the lean angles the bike is capable of reaching, there is almost a quarter inch of unused tire tread remaining.

The stiff forks and shocks are an asset for smooth cornering, but if the turn is bumpy or rutty, you must pay close attention to where the bike is going. The suspension units on our test bike were insensitive to these small bumps and caused the machine to change direction slightly in the turns. Instead of absorbing the bumps, the suspension caused the bike to veer off course. The change in direction isn't violent, but you must make small, deliberate steering corrections to keep the bike going where you want it to go.

The TX650A cruises along smooth highways and open roads nicely. You can change lanes quickly and predictably, and zip in and out of traffic with ease.

But on rain-grooved freeways, the front end has a noticeable wiggle, and you must make a conscious effort to keep the bike going perfectly straight. This wiggle is due in part to the ribbed front tire, which tends to follow the wavy, combed pattern on the road. On twisty, mountain roads, the TX650A handles best if you glide it through the turns with a gradual, smooth motion. You can't charge up to a corner and flick the bike over at the last moment because it responds slowly to such treatment. If you try to manhandle it around corners, it resists. If you use a gentle flowing motion, the bike swoops around these same corners gracefully.

Some TX650A owners and Yamaha dealers told us that the bike's suspension was stiff when new, which sometimes caused some of these handling peculiarities. They claimed that the bike handled and steered quite differently once the suspension softened up slightly. Our test bike had a stiff suspension, so we went to a local Yamaha shop and borrowed another TX650A, one with over 5000 miles on it. We wanted to find out for sure which of the handling quirks were caused by the stiff suspension, and which were related to the high center of gravity.

We found that the softer suspension on the borrowed bike had the ability to soak up bumps more efficiently, so cornering through rough turns was more precise and unaffected, and the need for small steering corrections didn't exist. And surprisingly, the cornering ground clearance was just as good with the soft suspension. We could tilt it over just as far as our stiffly-sprung test bike, and it felt just as stable.

The other handling idiosyncrasies, the ones caused by the high center of gravity, were the same on the borrowed bike as on our test machine. The borrowed 650 felt top-heavy around slow corners, was awkward at slow speeds, was affected by gusts of wind, and responded best to a gradual approach into a hard turn. And since it had a ribbed front tire, it, too, wiggled in the rain grooves.

COMFORT AND RIDE: For hour-long trips, the TX650A is comfortable; but on longer jaunts, it becomes very uncomfortable, mainly due to the thinly-padded seat. The seat is hard and slants down at the front, so as you ride along, your body gradually moves toward the gas tank. In this area, the seat padding is thin and doesn't offer much support. You can feel the seat base pushing on your rear end, and after a short while you feel some saddle sores forming. If you move back on the seat, there's a little more padding, but still not enough to be really comfortable. The stiffness of the suspension made the hardness of the seat even more annoying. The inability of the forks and shocks to absorb small bumps and ripples caused the bike to bob up and down, which hammered the seat against our butts. On our test bike this was very aggravating: but on the borrowed 650, the broken-in suspension was considerably smoother. Solo riding on the borrowed bike was just about as smooth and comfortable as two-up riding on the test bike—and that wasn't bad at all. And even though the suspension on our test bike is insensitive to small- and medium-size bumps, strangely enough, they absorb big jolts fairly well without transmitting much shock to your body.

The handlebar/footpeg/seat relationship is fine for people shorter than 5'10", but some long-legged riders will find it a bit cramped. The handlebars are high enough and have a nice rearward rake, but you'll find yourself sitting in a squat position, with your knees high and sharply bent. This eventually makes you uncomfortable and restless.

Engine vibration also has a negative effect on the TX650A's comfort. You get a tingling sensation through the hard, thin handgrips, and through the rubber-covered, rubber-mounted footpegs; but the largest amount of vibration comes through the seat.

The 650 has two rpm ranges where the vibration is most pronounced. The first occurs from 1500 to 2500 rpm; it then becomes negligible from 2500 to 3500 rpm. Then, from 3500 until redline, the vibes steadily increase as the revs get higher. The mirror is only useful in the 2500 to 3500 rpm range; at all other rpm, it's wasted. It's hard to tell if you're being followed by a bus or a compact car.

One nice thing about the TX is its quietness. There is very little mechanical noise produced by the engine, and the note from the mufflers is a deep, throaty one. Our decibel testing showed that it produces only 86.3 db (A), so you won't offend any citizens with loud, unwanted noise.

BRAKING: The Yamaha's front disc brake worked perfectly and consistently during the whole test. It required only a two- or three-finger pull on the lever to bring the bike to a stop, and it never wanted to lock up the front wheel.

Although the rear brake isn't very powerful, it does an adequate job of stopping the rear wheel. You have to press hard on the brake pedal to stop the bike, so you should never lock the rear wheel accidentally.

The brakes work nicely during panic stops. They're progressive and stop the bike quickly and predictably without fading. The bike also doesn't get sideways or out of shape when both brakes are full on; it stops in a straight line every time.

From 30 mph, we got the TX to a screeching halt in 37 feet 1 inch, and from 60 mph, it took 137 feet. The testers never felt apprehensive about using the full stopping power of the brakes because they worked so predictably. A beginning rider will also find the brakes reliable, consistent, and easy to use.

RELIABILITY DURING TEST: We were very pleased with the TX650A's reliability. The machine spent some punishing hours at the dragstrip and on the dyno, plus many miles on the streets and high-

ways. Nothing broke, fell off or stopped working, and that's what reliability is all about.

The clanky starter and the oil leakage from the breather are problems that Yamaha is aware of. They are currently in the process of working out factory modifications, which will soon be available at no cost to all TX650A owners.

SUMMARY AND CONCLUSION: The TX650A has a rugged, quiet engine that produces a wide band of usable power ranging from 2000 to 7500 rpm. Once over 10 mph in first gear, it pulls steadily and strongly all the way up to top speed. The close-ratio gearbox provides even gear spacing, and a short, positive lever throw.

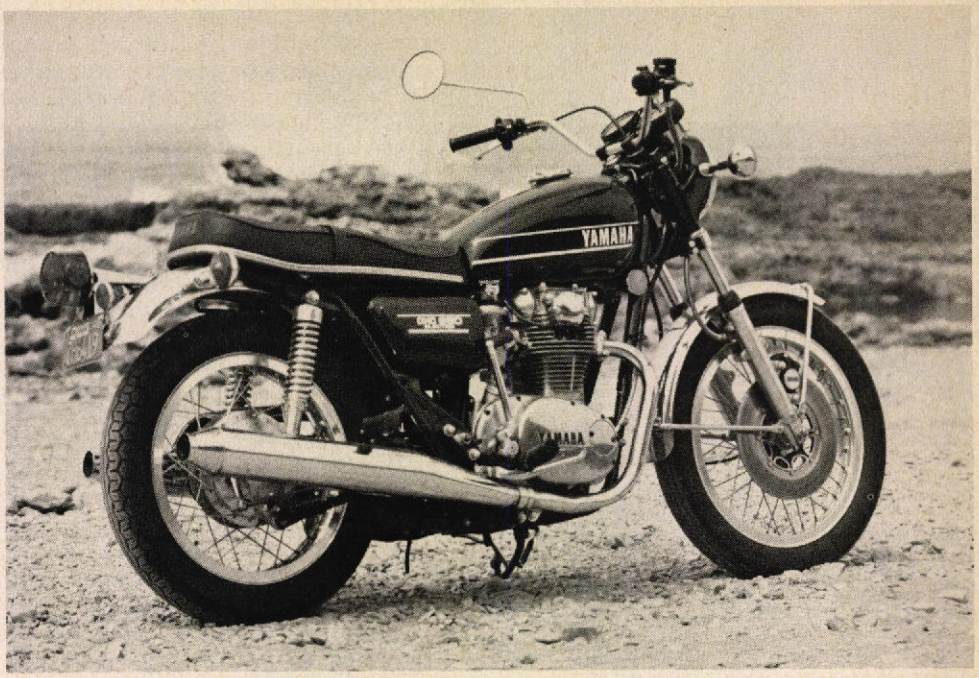
The handling is unusual, with a high center of gravity that makes the bike feel top-heavy in slow turns, awkward while maneuvering at walking speeds, prone to be affected by sidewinds, and reluctant to be tossed into a hard corner too quickly. When the TX650A is new, the forks and shocks are stiff, causing the bike to skip around and change direction while cornering on ripply or mildly choppy pavement. After the suspension has a few thousand miles to loosen up, the 650 corners more precisely on these same turns. And smooth, high-speed turns create no problem, either when the bike is new, or after the suspension wears in.

The seating position is fair, the seat is hard, and the ride is bumpy when the bike is new. Again, after the suspension settles a bit, the ride is much better, but the seat still doesn't offer much long-range comfort. The vibration of the engine can be felt through the handgrips, the footpegs, and especially in the seat.

The brakes are progressive and easy to use, the bike stops in a straight line, and the only reliability problems we encountered were two that the factory is aware of and in the process of rectifying.

Yamaha has done some of their homework, but not all of it. The bike still feels very top heavy, which affects the handling quite a lot. And if, for some reason the suspension on a new 650 should fail to soften up after a couple thousand miles or so, the owner will be in for many long miles of frequent erratic cornering and rough riding. And although the level of vibration is lower than on previous 650s, this bike cries out for Yamaha's Omniphase balancing system, which could lower the vibration to a level more in line with current standards.

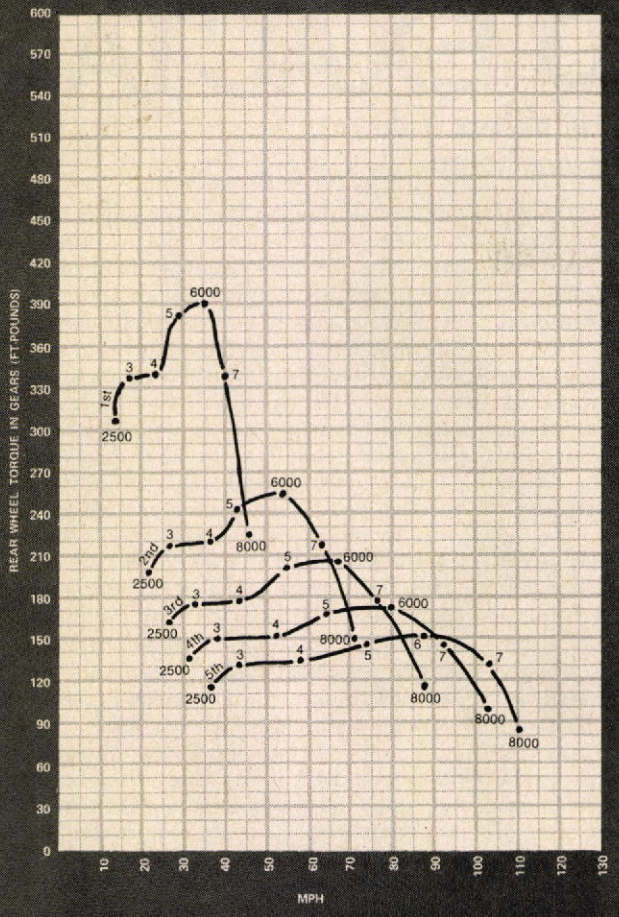
The TX650A has the potential to be a true sporting bike in the tradition of the British twins that it originally copied. It has bettered these bikes in many areas—electrics, electric starting, oil retention, reliability and ease of maintenance. But if there's one thing that these almost-extinct British bikes have going for them, it is near-impeccable handling, and in that respect, the Yamaha should have to stay after school for some extra lessons. ***CG***



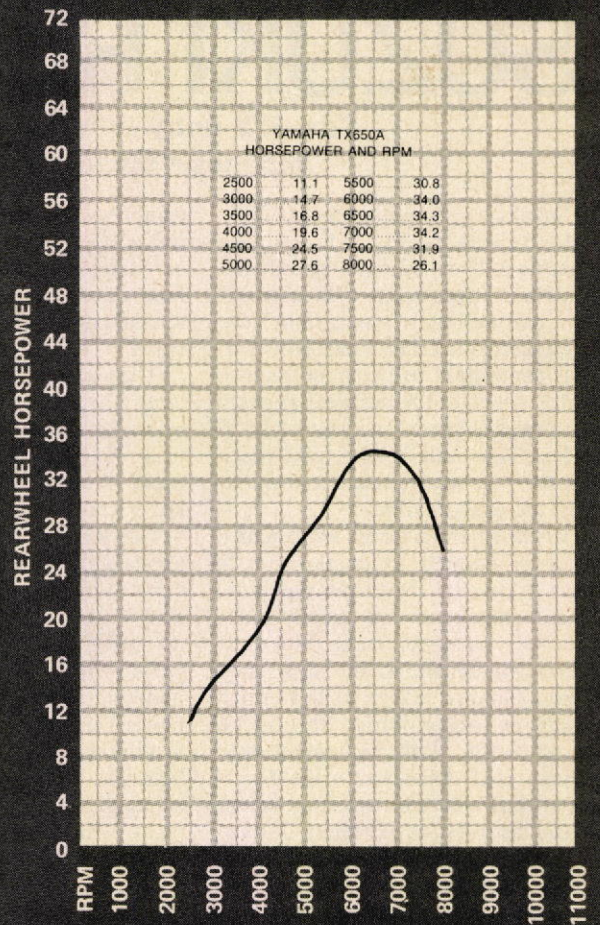
SPECIFICATIONS

Engine type	four-stroke
Cylinder arrangement	transverse, vertical twin
Valve arrangement	single overhead camshaft
Bore and stroke	75mm x 74mm
Displacement	653.8cc
Compression ratio	8.4:1
Ignition	battery/dual coil/dual point
Charging system	12-volt, AC generator, regulator, full-wave rectifier
Carburetion	two 30.6mm Mikuni-Solex constant-velocity
Air filter	two washable oiled-foam elements
Lubrication	wet sump, 2.6 qt. capacity
Primary drive	straight-cut gears, 2.67:1 ratio
Clutch	wet, six drive plates, five driven plates
Starting system	electric and kick-in-neutral
Transmission	5-speed, left foot shift
Overall drive ratios	(1) 13.13; (2) 8.47; (3) 6.93; (4) 5.84; (5) 5.11
Transmission sprocket	17-tooth
Rear wheel sprocket	34-tooth
Drive chain	⅝-in. pitch, ⅜-in. width (#530)
Front forks	4.9 in. travel
Rear shocks	5-way adjustable, 2.8 in. travel
Front brake	double-action hydraulic caliper, 11.7 in. disc
Rear brake	drum, single-leading shoe, rod-operated
Front tire	3.50 x 19 Yokohama rib
Rear tire	4.00 x 18 Yokohama universal
Frame	tubular steel, double downtube
Steering head angle	27 degrees from vertical
Front wheel trail	4.4 in.
Wheelbase	56.25 to 57.5 in.
Length	86.75 in.
Weight	474 lbs.
Weight distribution	45.7% front; 54.3% rear
Ground clearance	5.25 in. at side stand
Seat height	31.5 in., unladen
Handlebar width	30.5 in.
Handlebar grip height	43.25 in.
Footpeg height	12.75 in.
Instrumentation	tachometer, speedometer, tripmeter resettable to zero
Speedometer error	30mph indicated, 26mph actual 60mph indicated, 56mph actual
Gas tank	steel, 4.0 gal.
Gas mileage	38.3 mpg average
Best ¼-mile acceleration	14.42 sec., 92.2 mph
Stopping distance from 30 mph	37 ft., 1 in.
Stopping distance from 60 mph	137 ft.
Sound level as per SAE XJ 331a	86.3 db(A)
Suggested retail price	$1818 East Coast $1804 West Coast

YAMAHA TX650A

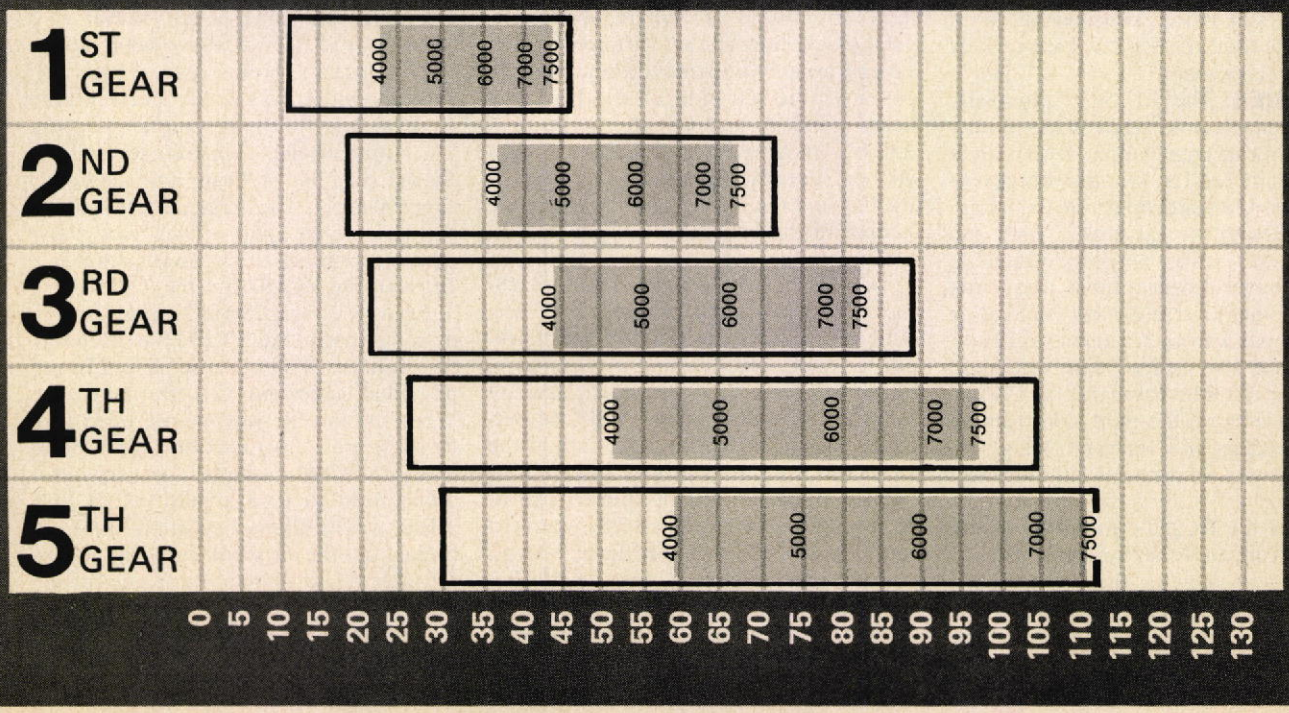


This graph shows the amount of rear wheel torque available at any speed, at any rpm, and in any gear. Maximum acceleration will be obtained by shifting gears at the points where the consecutive lines intersect.



This graph shows the amount of horsepower delivered to the ground as measured by a Patraco MKIII rear wheel dynamometer. These figures may vary from the manufacturers' claims, or from those obtained on a different dynamometer.

MILES PER HOUR



cycle guide

TRIALS TEST

SUZUKI RL250 EXACTA

Suzuki's entry into the trials market makes it three Japanese manufacturers down, one to go

Now Suzuki is getting into the act. First it was Honda, with the TL125 four-stroke trials machine. Then Yamaha introduced the TY250, a trials bike with a small headlight and taillight for occasional use away from actual trials sections. And Kawasaki is committed to the manufacture of a trialer, which at the moment appears likely to be a 250. But Suzuki's new RL250 Exacta beat Kawasaki to the third-place finish in the race among the Japanese to scoop up the trials market.

Each of the manufacturers was smart—and realistic—enough to commission a European to develop their trials machine, since the Japanese are not exactly reckoned to be experts at trials. The first Honda was all-Japanese, but now they have hired Sammy Miller to develop a super-serious trialer, which should be coming very soon. Yamaha latched onto no less than Mick Andrews for the development of the TY250, Kawasaki got Don Smith, and last July Suzuki hired Gordon Farley to get the RL250 section-ready.

Farley's credentials are impressive: former Greeves factory motocross rider; three-time ISDT gold medalist; winner of his first international trials at the age of 16; and the accomplishment he is most noted for, British Trials Champion in 1970 and 1971. That latter feat was so noteworthy because it was Sammy Miller himself whom Farley knocked off. With talents like that, the RL250 wasn't likely to go too far wrong.

THE BIKE: The RL250 is physically the most handsome trials bike of any nationality, due largely to the stylish silver plastic front fender, slender black exhaust pipe, and teardrop-shaped alloy gas tank. Although the gas tank is light and beautiful, it's really not very practical; trials bikes get dropped more frequently than any other kind of dirt bike, and alloy tanks are not known for their resiliency, or for their low cost or ease of repair. During the test we creased our tank twice: one slight ding on the right side from an unknown origin and, thanks to a log, one knee-bone-size dent in the left side near the seat.

Most of the RL250's engine parts are different from any other Suzuki 250 single, but there's no denying that it's basically a very detuned version of the 250cc engine Suzuki uses in their enduro and motocross bikes. The flywheels are of course much heavier, the porting much milder, and the compression ratio an unstressed 6.7:1. But it has no trickery such as rotary valves, or exotic porting. If anything, with the removal of the oil injection system, the RL250 engine has been made even more basic.

A variation from the trials norm is the large (for a 250 trials bike), 28mm carburetor. Small carburetors are the rule for trials bikes because they generally improve low-rpm throttle response, while larger carburetors increase horsepower.

The RL250 was not thrown together haphazardly; its frame and steering geometries appear to be well thought-out. The thin-walled tubular steel frame displays no out-of-the-ordinary innovations; a single downtube forks into a tidy triangle under the engine to surround a drilled skid plate. The gusseting around the steering head is considerable, with large holes for lightness. There are two flat gussets—one on each side just above the swingarm pivot—which have an unnecessary right angle that could poke an ankle. They must be a late modification, because they don't exist in the photos of the Exacta in the owner's manual, which by the way, is excellent.

The trickiest thing about the Exacta is the air filter. It's directly under the seat, a long way from the carburetor, so a rubber hose connects the two. The filter itself is not round, nor square, nor rectangular, nor hollow—rather it's a foam plate. To gain access, you remove a small plastic panel on the left side of the bike just below the seat, and the filter slips right out. It is mounted horizontally in a tight air box, with the filter acting as a lid to the box and the rubber hose reaching the bottom of the box. It's a simple and ingenious system, and it works well.

The wheels are steel, the standard 18-incher at the rear and 21-incher up front, with full-width hubs painted flat black, and four-ply IRC Japanese trials tires. There is a drive chain tensioner, and the swingarm is hollow with a drip-feed petcock chain oiler. On the right side of the swingarm is a sidestand which extends so far out to the side that it appears almost to be an afterthought. The cable-operated rear brake has an S-shaped lever with an open triangular pedal tucked neatly behind the primary case.

The left-foot shift lever is mounted high, so that it isn't vulnerable, and you must lift your foot off the peg to shift; but, in that position the lever stands the chance of being punched into the timing case in the event of a fall, which happened to our test bike. The kickstart lever is intelligently curved and its pedal tucked into an indentation in the muffler, but the kickstart mechanism itself is puzzling. When you put your foot on the lever nothing happens—that is, the kickstart gears don't mesh until the lever is nearly parallel to the ground. Because of this, we often had trouble getting enough leverage to execute a strong kick with the lever if we stalled on a steep hill.

ENGINE AND GEARBOX: Our test RL250 never failed to start by the third kick when cold, using the choke. After it started, the choke could be taken off in just a few seconds. The Exacta has primary starting, a blessing for a trials bike.

The only difficulty we encountered starting the RL250 was after it had been on its side for a minute or so. Then, and only sometimes, it would require five or six kicks to start; other times it fired off on the first kick. But it never loaded up or fouled a spark plug, even after it had been tipped over. And it idled without a whimper when the engine was warm.

The Exacta has a wide power range of course, but it develops a great deal more high rpm horsepower than normal for a trials bike. Up to 6000 rpm the RL250 has about the same power output as a Yamaha TY250. But above 6000, where the Yamaha's power curve falls off sharply, the RL250's is still climbing. And by 7000 rpm it is producing about twice the power of the Yamaha. At 7500 the Suzuki runs out of steam and the power drops sharply. The large carburetor and the lack of an rpm-robbing reed valve account for much of the power difference between the RL250 and the TY250.

Even so, the big 28mm Mikuni (By way of comparison, the TY250 has a 26mm, the Bultaco 325cc Sherpa T a 27mm.) provided excellent throttle response. When the throttle was twisted open suddenly, to cross a big rock or to get a boost over a rise for example, the carburetor didn't need to take a gulp of air first. There was a slight hesitation until we backed out the air screw early in the test, but after the adjustment we felt no further lag.

If anything, the throttle response was almost too good. First off, the throttle pull is very light. And the RL250 is a quick

revver, probably due in part to the large carburetor, but mainly due to a slight shortage of flywheel effect. It doesn't exactly result in runaway acceleration, but in a section that begins with some tight trickery and ends with a climb requiring a running start, you may need to shift into second—not because first gear is too low, but because it requires very precise throttle control to keep the engine at a steady rpm in first gear.

Usually, light flywheels in trials bikes result in a tendency to stall at very slow speeds, but not in the Exacta. First gear is low enough to enable the bike to plonk along between rocks at a super-slow speed without disengaging or slipping the clutch

or without any sudden, unexpected stops.

Second gear can be used in most of the sections, even the fairly tight ones, although not the *very* tight ones. We used second in some of the rockiest sections we could find, as well as some slow uphill climbs with a sharp turn or two on the way to the top. The types of sections we couldn't get through in second gear were long climbs requiring a slow start. Then we needed to start in first and shift into second along the way if possible or necessary. And the extra top-end horsepower was a real bonus, quickly jetting the RL250 to the top of some steep climbs that would have foiled less powerful 250cc trialers.

The gearbox worked well, except that the shift between first and second was very difficult to make quickly without catching neutral. It required two separate foot movements, or at least one hard one, which threw us off balance. A normal notch with the foot resulted in neutral—not a false neutral—but almost as if neutral were a gear of its own. Actually, this happened more often during the shift from second to first than from first to second. We think this problem is most likely due to the newness of the machine, a situation that we encounter frequently with test bikes. Because of the small amount of gear shifting necessary with a trials machine, it is quite possible that the gearbox needs more time to loosen up than we were able to give it during the testing period.

The gearbox ratios are excellent: First is low enough; second is close enough to first (the two most critical ratios with a trials gearbox); third is also close to second, although third is rarely used in trials sections; and fourth and fifth, which are almost always used only for trail riding, are closer to third than with most trials bikes. This makes it unnecessary to rev the daylights out of the engine in third before shifting to fourth.

The stock transmission sprocket is a 15-tooth, but 16- and 17-tooth sprockets are available. That would raise the overall gearing and probably make the Exacta better for trail riding in the lower gears, but for trials the 15-tooth sprocket is by far the best.

HANDLING: The handling of the RL250 is a bit of a paradox. To explain best, we offer a comparison of these wheelbases: Honda, 50.4 inches; Yamaha, 51.1; Bultaco, 52.2; Suzuki, 53.3. Generally speaking, the longer the wheelbase the slower the steering. Since the Suzuki's wheelbase is about three inches longer than the Honda, two inches longer than the Yamaha, and one inch longer than the Bultaco, its steering should be slower in comparison. But the steering head angle and front wheel trail affect the quickness even more than the wheelbase; the greater the head angle and trail, the slower the steering. In those departments the Suzuki is at, or close to, the short, quick end. And playing a smaller but measurable part is the Exacta's 43.4%/56.6% front-to-rear distribution of its 212 pounds, which makes it considerably lighter at the front than the others.

So put that all together: steep forks, short trail, and a light front end, and it spells *quick*—despite the long wheelbase. The length adds stability more than it slows steering. All in all, it seems like a good way to achieve a compromise in a trials bike, and it's original; Suzuki copied that design from no one.

The RL250 feels a lot like the Honda TL125, which is 12 pounds lighter. It is extremely easy to maneuver, the kind of bike that can cut figure eights all morning. Many amateur trials sections are in fact set up to be exercises in balance and right-angle turning, rather than challenges over natural terrain like European trials. To use an analogy, most amateur American trials are to European trials what American amateur road racing is to European racing: the courses are smaller, tighter, and less demanding in the pure sense, but require a different set of skills. The Exacta has the kind of skills most useful for the kind of events in which it will be ridden most—amateur trials.

As part of the test we entered the Exacta in a local trials and found the bike perfectly suited for the type of sections that were laid out there—that is, made difficult artificially by using many tight turns. The Exacta's steering is fast and light, and the front wheel is very controllable. We never found ourselves wobbling and wavering the front wheel in a series of over-corrections as sometimes happens with quick-steering trials bikes. One positive turn of the handlebars, and the front wheel went exactly where it was pointed the first time.

We did some riding with a long-time owner of a Bultaco Sherpa T—an Englishman who learned trials in the bogs of Great Britain, no less—and found by trading machines that the Exacta definitely had the edge in steering quickness over the year-old 250cc Sherpa T. Even our English friend agreed, despite his partiality for Bultacos and his purism. But we found that the Bultaco was much more stable in sand. The RL250 had a strong tendency to let the front wheel wash out, many times to the point of flopping over. We set up one tight circle in the sand around a tree and found that we never could get the Exacta around without dabbing, while success with the Bultaco came about one-third of the time.

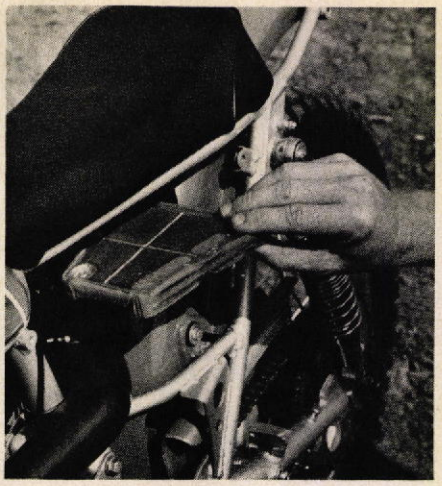
We think that one particular handling difference was due in part to the tires. The Bultaco was fitted with two-ply Dunlops, our RL250 with four-ply IRC trials tires. We've encountered this problem before with Japanese and other trialers; four-ply tires are just too hard to provide good traction.

Getting traction with the rear tire was often a problem; in loose dirt and over sandstone or rocks with a light layer of dust, the tires did far too much slipping. The bike was tested in June, and since finding mud in Southern California in June is next to impossible, we can't be sure how the tires fare in the slop, but we suspect they would be as deficient in mud as they are in sand.

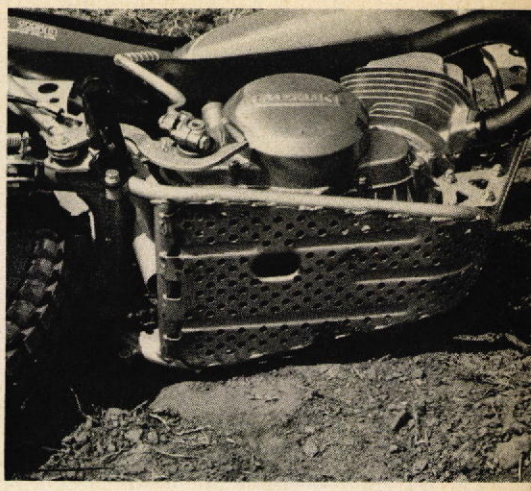
The long wheelbase compensates for the light front end when climbing hills. We never looped the Exacta over backwards, nor did its front wheel take off into the air unexpectedly while climbing a steep hill, a situation that occurs in trials far more frequently than one might imagine. But we had to be careful to keep most of our weight forward, which in turn kept weight off the rear wheel and didn't help the traction situation.

By shifting our weight rearward or cracking the throttle, the front wheel would do a nice controlled wheelstand, which made crossing obstacles easy. It was no problem at all to get the front wheel

The swingarm-mounted sidestand hung way out to the right side, but it never caught on anything or caused the bike to fall.



The oiled-foam filter element pulls right out of a slot in the airbox once the left side cover is removed.



A welded-on perforated skid plate completely shields the main engine cases from rocks and other obstacles.

a foot or two off the ground when necessary.

The ground clearance under the skid plate was sufficient; the part of the bike on which we hit bottom most often was the footpegs, which are pretty high at 15 inches. That surprised us, because when we first saw the machine we just *knew* that the protruding sidestand would get in the way of everything. But to our amazement, the only time it was an inconvenience was when the rider was in a steep, narrow canyon and had to paddle to get out; then his foot hit the sidestand repeatedly.

Actually the stand doesn't extend outward any further than the footpeg; it just looks obvious dangling out there beside the swingarm. And when it did make contact with a tree or rock, the sidestand just rubbed off the obstacle, since the direction of the stand is to the rear, not out to the side like a footpeg. At the conclusion of the test the stand was scratched enough to indicate it had frequently been making contact with things, but it never stopped the bike or caused it to fall over.

The front suspension is excellent. We rode over many two-foot high ledges, bouncing on the handlebars as we went, and couldn't bottom the forks. The only time we reached the end of the travel was when we deliberately rode up, or more exactly, *into* a ledge (only one foot high this time) head-on, without trying to lift the front wheel over it. That is hardly good trials form but sometimes it happens in a trials event, and it's a good way of finding the limit of a bike's front suspension. That was the Exacta's limit, but one well within the tolerable margin. Despite their reluctance to bottom, or top, for that matter, the forks are soft enough to absorb every kind of trials bump without making the machine the least bit difficult to control.

The rear shocks bottom much more easily. Over the same ledge that the front forks survived so well, the shocks reached their limit with the setting in the middle of the five positions if we sat on the seat upon impact. In the stiffest position they wouldn't bottom, but that was too stiff for most trials conditions. And with the shocks set on soft, the bike's stability was borderline on rock-strewn paths. The middle spring preload was the best position for our 160-pound tester; the long wheelbase helped the rear suspension keep the Exacta stable, and the rear wheel wasn't bounced out of line with the front in those rocky sections.

COMFORT AND RIDE: The Exacta's riding position feels less like a trials bike than most, mainly because of the handlebars. They're a little higher and narrower than normal, with a little more rearward rake. The footpegs are also high, but not so high in relation to the bars that the rider feels as if he's bent in half when he's standing, which is the case with a lot of trials bikes. However, the best trials position isn't always the most comfortable one, and the most comfortable one doesn't always allow the best control. But the Exacta offers a reasonably comfortable stand-up position without sacrificing any noticeable amount of control.

The seat is also high, but what can you say about a trials seat? When you sit down between sections, it doesn't feel too hard, and when you stand up, it isn't in the way.

The footpegs are serrated and folding, and afford an excellent grip on the bottoms of boots. They are as long as necessary and no longer. You can fit your entire foot on the left peg, but on the right side, the brake lever linkage and pivot occupies some foot space. Consequently, your right boot hangs off the peg a bit, and your ankle is pressed up against the brake lever.

The beautiful alloy gas tank is long and slim, so it doesn't keep you from climbing around while you're shifting your body weight. If it's your style, you can get your knees together over the tank to keep your body weight centered.

The engine is very smooth. You won't be worn out after a day of trials riding because your hands and feet were vibro-massaged to death. The low level of vibration was one nice thing about the Exacta that we really appreciated.

BRAKING: Both brakes have a brake-lining wear indicator, which is nice but hardly necessary. Considering the slow speeds at which brakes are used on trials bikes, brake linings just aren't one of the most frequently replaced items.

The front brake was safe; it slowed the bike well enough in trials sections and never accidentally locked the tire in loose sand. But when we used it hard between sections it felt mushy and didn't really stop the bike as well as, say, a good enduro bike brake.

The rear brake required constant adjustment. It temporarily lost some of its effectiveness when it was dragged down a long steep hill, and when it was applied quickly and hard, it emitted a clunking sound, like a flopping brake shoe. This didn't seem to hinder the braking power when the brakes were used gently, which is the way they were applied most often.

RELIABILITY DURING TEST: After the initial carburetion adjustment to allow the engine to idle and respond to the throttle, nothing went wrong. The automatic chain oiler kept the chain lubricated well enough to prevent any excessive stretch, and we used the same spark plug during the entire test. The owner's manual recommends Suzuki CCI oil mixed at 20:1, so we began the test with a batch

of that, then switched to Pennzoil two-stroke oil, then tried Yamalube, all at 20:1. The engine seemed quite happy with any one of those oils.

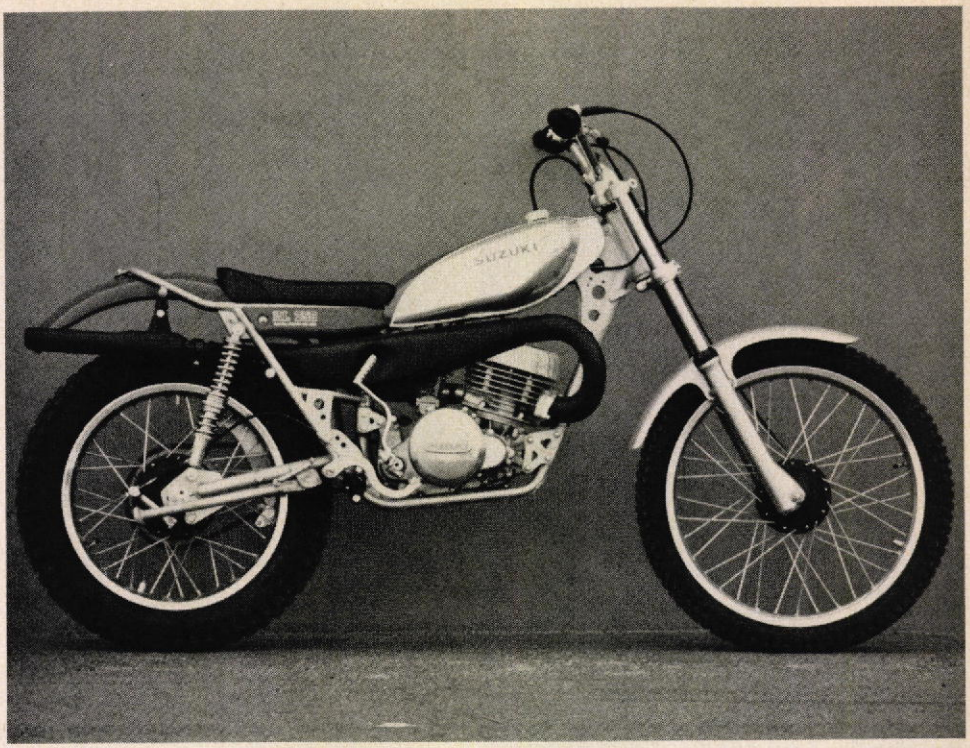
There was one amusing and peculiar incident which in itself commends the Exacta's reliability. While riding through a narrow, over-grown pass, one tester accidentally hooked the throttle cable on a branch, which stuck the throttle wide open. He punched the kill button but nothing happened. He put the bike in gear, wedged the front tire against a bank, locked both brakes, and popped the clutch; the rear tire just spun. Then he reached down and pulled off the spark plug cap, and to his amazement the engine kept on screaming! With that, he shrugged his shoulders, pointed the bike toward a large, soft bush, and let the clutch go; fortunately his plan worked, and the Suzuki stalled in the bush with no more damage than a bent shift lever and clutch lever. But the whole silly act had taken about 15 or 20 seconds with the engine freewheeling wide open. Many bikes would have done a big self-destruction thing, especially considering that there were very few hours on the engine at the time. But the Exacta ran perfectly after the incident, showing no trace of damage.

SUMMARY AND CONCLUSION: The Suzuki RL250 Exacta is the latest—and most handsome—Japanese trials bike, with definite individuality. Basically, it uses a detuned 250 Suzuki enduro engine. Throttle response is excellent; the powerband is wide enough and the gear box ratios close enough that most sections can be ridden in second gear. And there's an unusual amount of top-end horsepower, coupled with adequate low-end torque.

The handling is very quick, yet stable at both ends. The bike doesn't demand a lot of handlebar corrections, and the long wheelbase helps keep it tracking straight in rocky sections. The Japanese IRC four-ply tires are too hard for good traction; Dunlop two-ply trials tires would make a big improvement. The front forks are excellent, and for most riders, the rear shocks are satisfactory in their middle position.

The standing position is very comfortable for a trials bike, and the smooth engine minimizes rider fatigue. The front brake is sometimes marginal, and the rear brake is satisfactory only when used gently in trials sections.

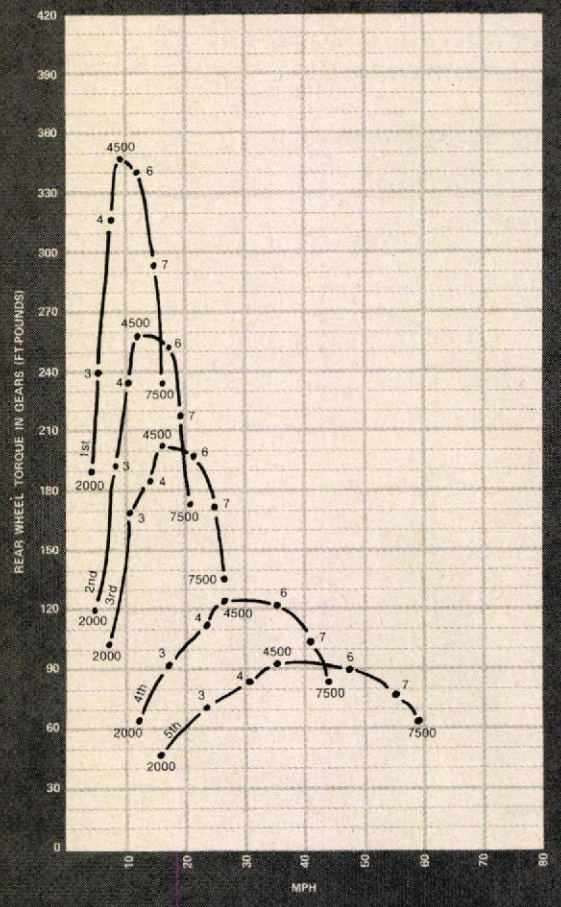
For $1125, Suzuki has made a darn good trials machine. It's got a lot of good things for a first-timer: beauty, excellent handling, a good powerband, nice gearbox ratios, plus apparent reliability. Gordon Farley has obviously done his homework well, and the factory has plugged many or most of his recommendations into the production machine. It not only is an excellent bike for the amateur trials rider, it is worthy of serious consideration on the part of the expert rider as well. ***CG***



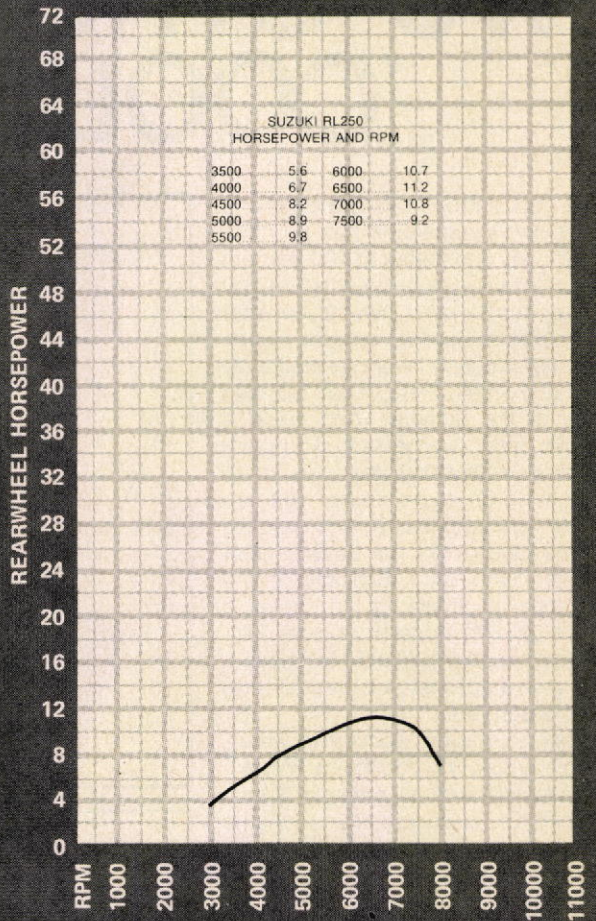
SPECIFICATIONS

Engine type	two-stroke
Cylinder arrangement	vertical single
Port arrangement	one intake, two transfers, one exhaust, piston controlled
Bore and stroke	70mm x 64mm
Displacement	246.3cc
Compression ratio	6.7:1
Ignition	pointless electronic
Carburetion	one 28mm Mikuni slide/needle
Air filter	washable oiled-foam element
Lubrication	pre-mixed fuel and oil
Primary drive	straight-cut gears, 4.17:1 ratio
Clutch	wet, six drive plates, six driven plates
Starting system	primary kick
Transmission	5-speed, left foot shift
Overall drive ratios	(1) 36.23; (2) 26.99; (3) 21.16; (4) 12.94; (5) 9.60
Transmission sprocket	15-tooth
Rear wheel sprocket	54-tooth
Drive chain	½-in. pitch, ¼-in. width (#428)
Front forks	6.1 in. travel
Rear shocks	5-way adjustable, 4.0 in. travel
Front brake	drum, single-leading shoe
Rear brake	drum, single-leading shoe, cable operated
Front tire	2.75 x 21 IRC four-ply trials
Rear tire	4.00 x 18 IRC four-ply trials
Frame	tubular steel, single downtube
Steering head angle	27 degrees from vertical
Front wheel trail	3.0 in.
Wheelbase	52.75 to 53.75 in.
Length	80 in.
Weight	212 lbs.
Weight distribution	43.4% front, 56.6% rear
Ground clearance	10.5 in. at sidestand
Seat height	31.25 in., unladen
Handlebar width	32.5 in.
Handlebar grip height	44 in.
Footpeg height	15.1 in.
Instrumentation	none
Gas tank	alloy, 1.3 gal.
Sound level as per SAE XJ 331a	86.7 db(A)
Suggested retail price	$1125, East and West Coast

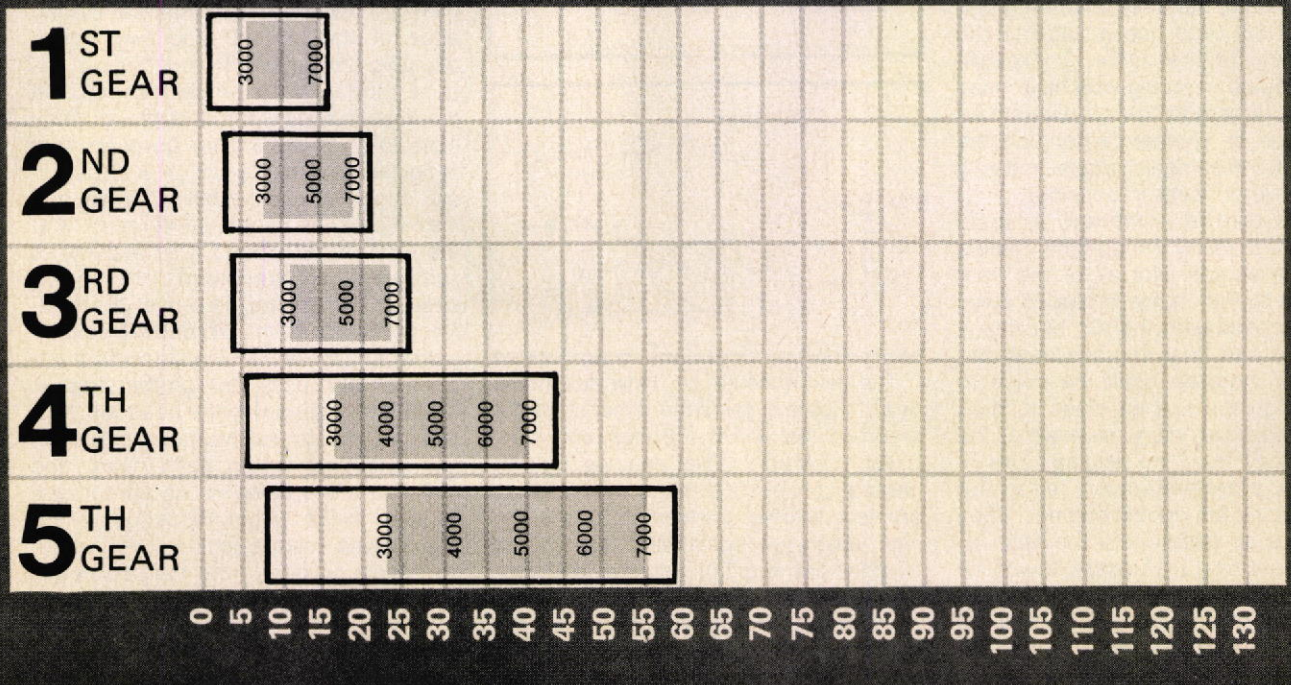
SUZUKI RL250 EXACTA



This graph shows the amount of rear wheel torque available at any speed, at any rpm, and in any gear. Maximum acceleration will be obtained by shifting gears at the points where the consecutive lines intersect.



This graph shows the amount of horsepower delivered to the ground as measured by a Patraco MKIII rear wheel dynamometer. These figures may vary from the manufacturers' claims, or from those obtained on a different dynamometer.



IMPROVED TWO-STROKE COOLING

For less than $5 and a few hours of your time, you can build this cooling shroud that will keep your two-stroke's head temperature down and its performance up

by David Manson

When cool spring days are past and it gets sticky, summertime hot, you find that your body can't work at 100 percent efficiency for very long. So what do you think happens to your two-stroke after several hours of hard running at maybe 90 degrees? It doesn't work as efficiently either, that's what. Bikes get hot, too, and not only in the summer. And when a two-stroke gets overheated, its power output drops noticeably. If you've spent a lot of time on two-strokes, you undoubtedly can recall several instances where the bike didn't run as well after an hour's riding on a hot day. If the engine could be made to run cooler, it would be able to operate at peak efficiency longer, and it would also have a built-in guard against self-destruction from too much heat.

So what do you do, convert to water-cooling? Sure, if you're a metallurgist-machinist and have plenty of time and money. Or, you could fit your engine with a fan and shrouding arrangement, like a Volkswagen or Porsche (or Corvair), but this would be difficult to do within the confines of a stock motorcycle. A more practical solution is a cylinder head shroud much the same as found on some Suzuki road bikes.

The advantages of this arrangement are easily seen. The shroud is fairly simple to fabricate, certainly cheap enough (less than $5), and doesn't add to the overall bulk of the cycle. There are enough people in racing who have used some sort of shrouding on a two-stroke at one time or another, which, on the basis of this testimonial alone, make it a worthwhile concept to consider.

When a bike is in motion, air gets blasted haphazardly through the cooling fins of the engine. Not all of the heat generated by the engine is carried away through contact with the air, but this is where you can best improve heat dissipation. If more air could be made to flow through the fins as close to their roots as possible, more heat would be carried away from the engine. This is what the aforementioned fans and shrouds do on fan-cooled engines. They force more air deeply into the fins, removing more heat than possible with an unshrouded engine. A properly designed cycle head shroud should function in much the same way, thereby lowering the operating temperature of the engine.

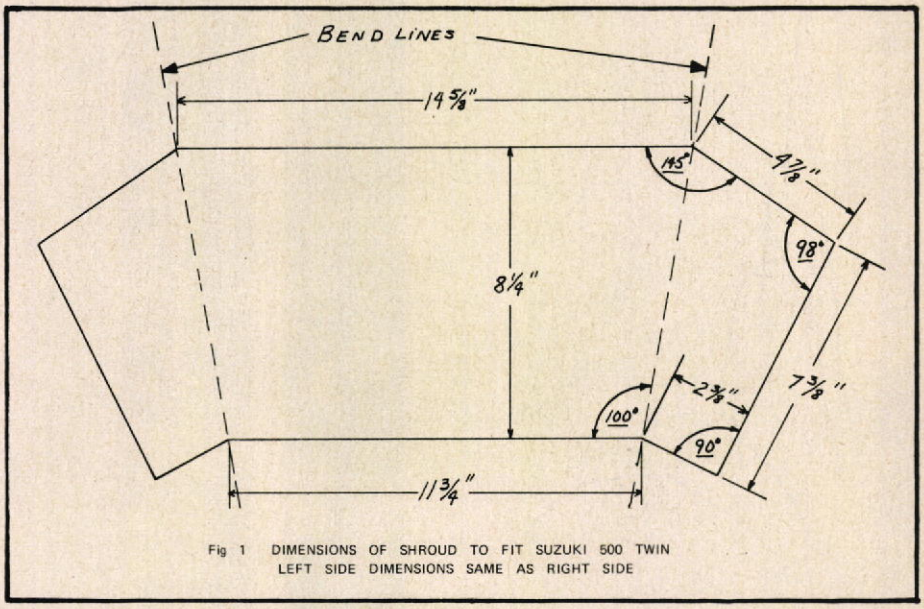


Fig 1 DIMENSIONS OF SHROUD TO FIT SUZUKI 500 TWIN
LEFT SIDE DIMENSIONS SAME AS RIGHT SIDE

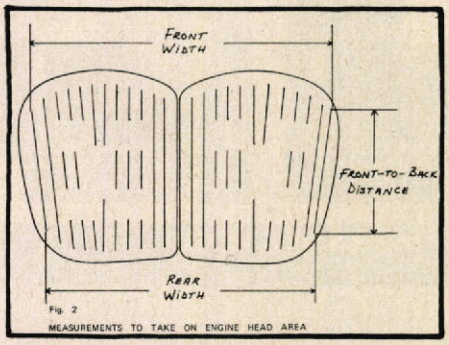


Fig. 2
MEASUREMENTS TO TAKE ON ENGINE HEAD AREA

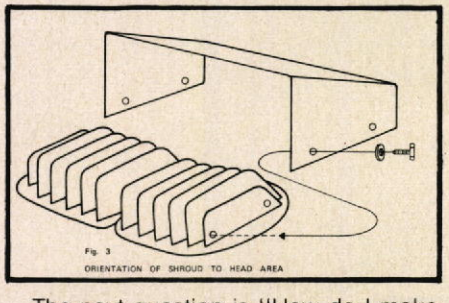


Fig. 3
ORIENTATION OF SHROUD TO HEAD AREA

The next question is "How do I make one?" Figure 1 gives the dimensions for a shroud that will fit a Suzuki 500 twin. It won't bolt up to other engines, but the general concept is clear. However, there are several other parameters of the design which are not immediately visible from the drawing. For instance, the leading edge of the shroud should be on the same level or slightly higher than the trailing edge when in place on the engine. If the front were lower than the rear, the shroud would serve as a shield, keeping some cooling air away from the head instead of forcing it down through the fins.

Another consideration of shroud design deals with the problem of engine vibration. The first shroud I made cracked from this vibration in about two weeks, but the second one is still in good working order. In eliminating the problem, the only change I made was to mount the trailing edge of the shroud atop two noise-damping "fin plugs" from a Suzuki enduro model. Your shroud should be mounted this way, too, though you may have to shop around for fin plugs that fit tightly between the fins on your particular engine. If your engine is a triple, you may wish to add some reinforcement at the front of the shroud. Use a piece of strap steel, bent to conform to the leading edge of the shroud. Pop-rivet the reinforcing strap to the shroud at several points, and make sure the shroud mounting bolts also pass through the strap.

Mount the shroud to the head with four ¼-20 bolts screwed into holes tapped in the outermost fin on each head, and make sure the holes in the shroud are at least ¾-inch from the edge of the metal. Also, slip a lock-washer under each bolt, or safety wire the bolt heads to prevent their loosening.

When you start building a shroud, the first thing you should do is take measure-

Continued on page 88

JOURNEY THROUGH LATIN AMERICA

by Joel Fogel

The following article is excerpted from a book of the same title, as yet to be published, which chronicles a 10,000-mile trip from Alaska to South America along the Pan American Highway. The author, Joel S. Fogel, is a 28-year-old explorer whose expeditions have carried him around the world. In the summer of 1970 he gained international headlines and praise from the President when he paddled his 17-foot kayak from New York City to Miami Beach to survey water pollution along the East Coast. He has written a book detailing this experience titled Forty Days and Forty Nights.

Most recently Mr. Fogel was a member of a raft expedition in Africa, where he and a complement of 30 other scientists, journalists, and photographers spent two months exploring the 500-mile Omo River in Ethiopia, which had never before been navigated.

CHAPTER 1
Taking Off

The autumn air had a cool dampness to it as I stood on the quay watching the freighter pull into the dock two days late. Michele stood beside me holding my hand tightly, staring intently as the ship moored and began unloading its cargo.

"Would you possibly consider a sidecar passenger?" she asked with a French accent, her blue eyes sparkling.

I looked at her and silently questioned my own motives for what I was about to do. Did I really know what I was getting into? No, but perhaps that was half the reason I wanted to do it. There certainly was a challenge involved as well as a bit of the unexpected.

"Can you see it yet?" she asked.

"Yes, I think it's coming now."

Strapped to a wooden platform, my large black BMW now swung precariously over the dock. Slowly, the giant crane gently set it down. Now it stood alone on the wharf . . . waiting. I walked toward it, deciding to check for damage.

"Aren't you excited?" she asked.

"Sure," I said, looking and finding nothing wrong. "Can't wait to get started."

Behind me, the sun's dim mid-morning rays spread thinly across the city of Anchorage and a cold wind blew from the north, out of the snow-capped Alaska mountains which glinted majestically in the background. I had made up my mind to head south as soon as the bike arrived. But now, I wasn't sure.

This would be my longest motorcycle trip yet. My plan was to travel south from Anchorage along the Pan American Highway into Mexico, Central and South America. Although I had made two previous cross-country trips by motorcycle from Los Angeles to New York in 1964 and 1965, both had lasted less than two weeks. This trip on the Pan Am Highway to Tierra del Fuego, Argentina, was scheduled to take over a year and lead me across 10,000 miles of international boundaries and unfamiliar territory.

"Will you send me a postcard from South America?" Michele asked, jerking me back to the present.

"Sure," I said. But my mind was already rolling down the Alcan highway.

CHAPTER II
Anchorage To The Border

By nine o'clock the next morning I had the bike loaded with my equipment and was headed for Tenacross where I would cut into the Alaska Highway, formerly known as the "Alcan Route" when it was built and used during World War II as a military supply route. Today, the highway stretches across Canada for 1500 miles from Fairbanks to Dawson Creek, British Columbia. My destination was Prince George, B.C., from where I would go south, crossing the U.S. border into Bellingham, Washington.

For the first two days out of Anchorage, the weather was fine. After sleeping along the roadside, I woke early the second day and cruised for mile after mile along fairly decent highway. The sky was clear and it was good to have the feeling of a precision machine beneath me as I banked into the turns, the wind in my face and a 360-degree view of the scenery passing before me.

Normally I would have been exhausted by the third day of travel on an extended cycle trip; having to remain alert constantly for possible hazards such as potholes and animals would usually combine with the regular fatigue of sitting in one position while the wind buffeted me from side to side. But after the two cross-country motorcycle trips I was well aware of ways to ease the pain.

Before the trip, I had added a Wixom fairing and windshield. Next came two footpegs which I bolted high on the downtubes to allow me to sit back, put my feet up, and relax. Then I replaced the standard BMW gas tank with a big five-gallon cruising tank and mounted two large fiberglass bags on either side at the rear of the bike. Last, I welded a steel-

reinforced back-rack to the frame and fitted a custom saddle seat which I equipped with two hydraulic dampers for a smoother ride.

On the third day, however, none of my extra comforts saved me: It began to rain and bad weather followed me down the coast until I reached Los Angeles ten days and almost 3000 miles later. Of course the bike was holding up well, but *I* was exhausted. Most motorcyclists prefer to wait out bad weather. I would rather ride through it and recuperate in the sun.

CHAPTER XI
Communist Guerillas

The trip from San Cristobal to the Guatemalan border the next day was about 100 miles and I reached the border late in the afternoon. But no sooner had I arrived at the border than I was greeted by the Mexican *aduana* (customs) and asked to make a contribution.

"To what?" I asked, but the guard simply shrugged and smiled broadly, flashing a gold tooth beneath his mirror sunglasses.

"Until tomorrow, señor," he said quietly, and I knew he meant I would have to wait until tomorrow to cross the border unless I gave him some money today. Although the practice of asking for a tip at the border is entirely illegal, some guards do it successfully.

The real problem, however, was that I had spent nearly all my Mexican pesos, anticipating the currency change to Guatemalan quetzals. Of course, the guard would not believe me and I lost valuable time hassling with him.

"You have no Mexican money?" he asked.

"I would not lie to you, my friend."

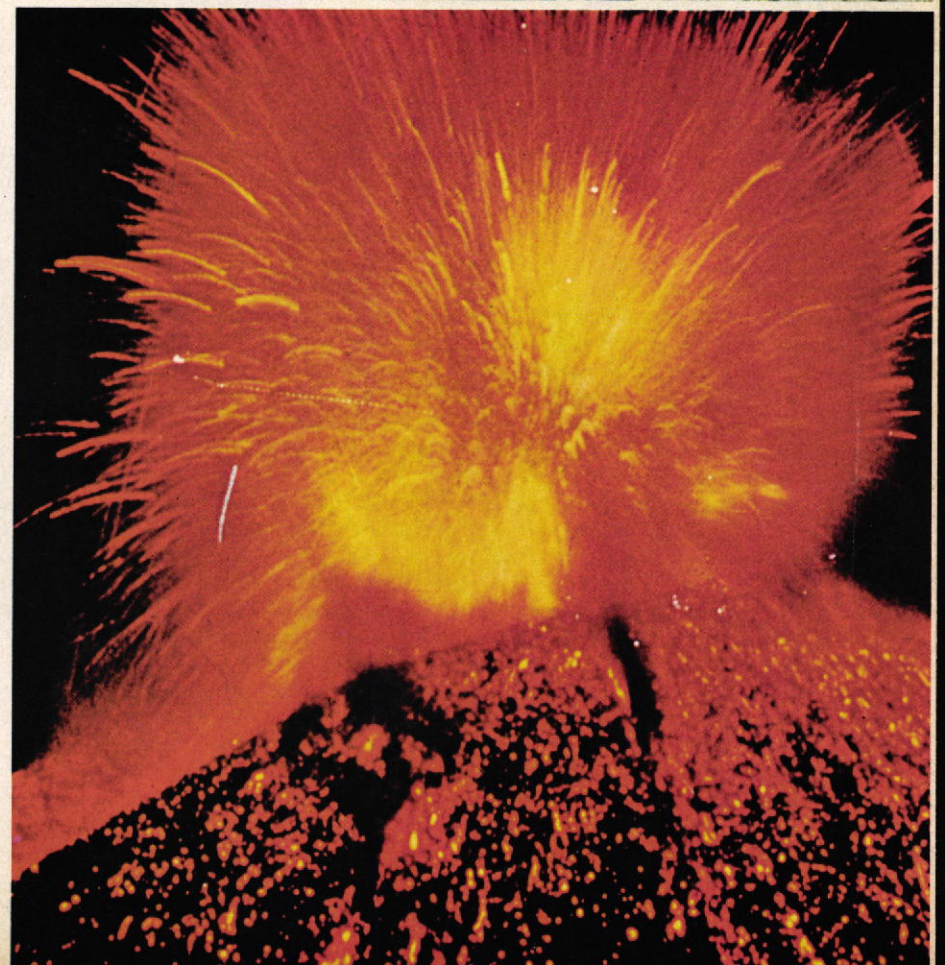
"Have you nothing of value?"

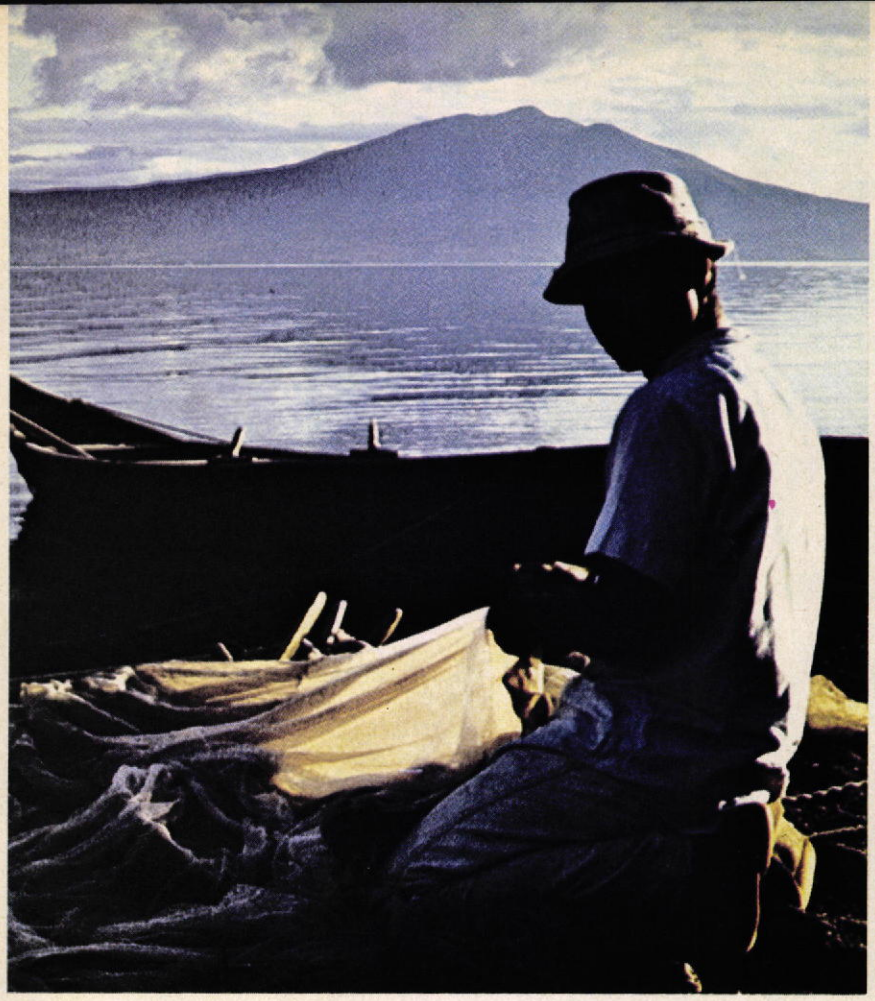
"Oh sure," I said, getting annoyed. "What would you like? Candies, magazines, cigars, cigarettes . . . how about a soft drink. Yes, I think I have a soda in my saddle bag . . . let me see."

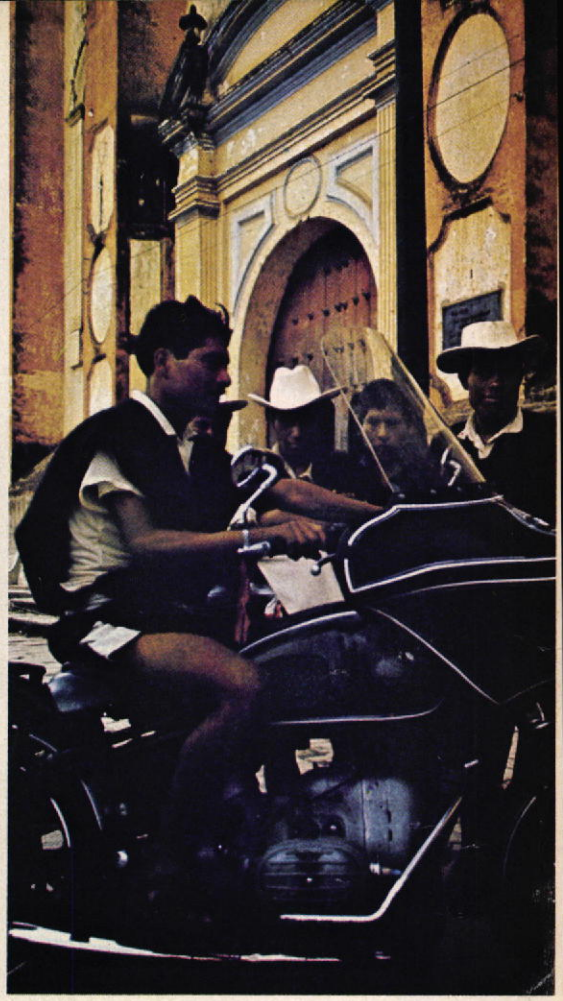
I began searching irritably through my belongings until the guard laughed and finally settled for several pieces of soft chocolate I had stowed in my saddlebags for emergencies such as this one.

As a result of this delaying encounter, I now had to cross a bad section of road late in the afternoon. The Guatemalans call it *El Tapon* or "the stopper," in Spanish. It is a boulder-strewn, rough gravel road that weaves through a deep mountain gorge for 20 miles, parallel to the Selagua River. My plan had been to ride from San Cristobal to Guatemala City in one day. Now it appeared as though I would be lucky to get past El Tapon before dark. As it turned out, I was pressing my luck too far. Although I had heard stories of guerilla terrorists operating out of jungles in northern Guatemala, I didn't pay much attention to them. I should have.

I had covered 15 miles when I saw a mass of dirt and boulders with a stream







washing through it in the middle of the road. I got off the cycle and waded into the torrent of water and rubble, looking for a place to get through. There had obviously been a landslide and the gravel was five feet high with good-sized boulders in it.

For 15 minutes I watched as the gush of water washed the rubble of dirt, gravel and boulders off the road. After a few more minutes, the only thing left was two rocks and I judged I could easily maneuver between them. I shifted into first gear and gradually started through. About midway my rear wheel began to spin and the bike slid close to the edge of the cliff with a 200-foot drop to the river.

I held the bike steady for a minute and then decided to blast through, opening my throttle wide and spitting a rooster tail of water from my rear wheel until I bounced up on the dry side. I straddled the bike for a minute, listening to it idle while I rested.

Suddenly, a loud tat-tat-tat sounded to my left from across the river. Split seconds later, a shower of rocks and dirt hit my windshield—a machine gun was raking the road in front of me! The next burst of gunfire came from behind as I let out the clutch and spun the throttle. The motorcycle stood on its rear wheel and a bullet grazed my helmet, whizzing through the top of my windshield, leaving a nice hole where my head might have been. I leaned forward, clinging tightly to the cycle. The bike took off, tearing around the curves and bends in the road.

By now, the entire canyon was alive with sound: men yelling from the jungle across the river, rifle fire from behind, and the sounds of Jeeps roaring ahead. The engine noise grew louder and four green Jeeps suddenly appeared as I barreled around a turn. Ten uniformed men jumped from one Jeep and stopped me at gunpoint.

"Amigo!" I shouted, so as not to be mistaken for a terrorist. I began speaking Spanish as fast as I could, trying to pronounce my words clearly.

"What are you doing here?" one man asked in pretty good English. He stepped forward.

"I am a tourist," I explained, "heading for Guatemala City."

"We are members of the Guatemalan militia," he said. "We were on patrol searching for the F.A.R., when we heard gunshots and saw you on your motorcycle."

"What's the F.A.R.?" I asked.

"Fuerzas Armadas Rebeldes, a group of armed Communist terrorists who have been reported to be in the area."

"You're on the right track," I assured them, putting my finger through the bullet hole in my windshield.

Meanwhile, during this explanation, two Jeeps full of men continued past us in the direction I had pointed. The sound of machine gun fire began echoing again in the canyon. In the twilight, officers could be heard yelling as the soldiers charged across the river into the dense jungle.

"A group of guerillas is probably offering slight resistance," said the officer standing next to me. He looked toward the area where rifle fire could now be heard and grinned.

"Do you have this problem often?" I asked, trying to relax.

"Lately, yes," he replied. "In Guatemala City alone we have lost two United States Military attaches and an ambassador since 1968. And just recently, another attache was kidnapped."

After the skirmish, I had a personal escort to Guatemala City where I testified, a week later, against three of the captured terrorists. All three were sentenced to death. At the time I thought this a rather severe punishment. But I suppose in a city of so many political assassinations and kidnappings each year, guerilla warfare is not looked upon kindly.

CHAPTER XVI
A Close Call

A few days later, further along a well-paved section of the Pan American Highway, I approached the brown, glimmering waters of Lake Nicaragua where one of the strangest phenomena in the world exists. The lake, which is the third largest in the world with 1000 block-sized islands scattered upon it, has species of fresh

water shark and swordfish lurking in its depths. Biologists believe that at one time the lake opened directly into the Pacific Ocean, and supposedly these salt water fish slowly adapted to their fresh water environment after a volcanic eruption produced land between the lake and the ocean.

One afternoon while visiting Granada, a colonial port on the northwest side of the great lake, I began to experience sharp pains in my sides and back. I thought it might be from the strain of sitting and bouncing over miles of roadway, so I decided to have a kidney belt made to offer some support to my back muscles.

I had planned to have one made in Mexico where the leatherwork is good and cheap, but I had forgotten. The shop where I went in Granada did a fine job, and in less than half an hour the workmen had prepared exactly what I needed out of quarter-inch leather.

Early the next morning, while cruising over 200 miles of paved road which climbs through the green hills and up into the mountains of Costa Rica, I began to formulate an equation for determining climate in Central America: the higher you go, the cooler it gets. The lowlands had been hot and humid, but now as I made my way across the Costa Rican highlands, the air became misty and cold.

It was a good day. The sky was clear. The road was dry. I was cruising at 50 to 55 miles per hour, enjoying the feel of the precision machine beneath me as I rounded bend after bend, winding down and across fertile, tropical valleys and then up again into the cool, pine-clad mountains.

By late afternoon, I was about 20 miles outside of San Jose and coming down out of the mountains again toward a plateau of sugarcane fields. I remember seeing the reflection of a deep purple sunset on a small stream as I crossed over it. Then I rounded a curve. It was sharp, so I banked hard to the left, reducing my speed as I leaned into the turn. In the twilight I noticed a slight sheen on the curved section of the road ahead. I recall seeing it and thinking it looked like a very well-trod piece of asphalt.

My next thoughts were Jesus Christ, No!

Half a second and I was slipping across an oil slick. My foot instinctively went to the ground but the bike came down on top of it. The world seemed to be spinning now and sparks flew in my face from the handlebar as it dug into the road. There was the sickening screech of metal when the bike continued to spin off the oil and onto the dry road. My leg was pinned beneath the burning cylinder head of the motor and I felt like the 500-pound motorcycle was trying to climb on top of me.

It seemed like hours, although only seconds, before the bike came to a screeching halt inside a ditch along the road. Then there was silence, but the lack of sound was almost as loud as the noise before it.

At first I was dazed. Gradually, however, I became aware of a burning sensation in my leg. I gazed at my left leg and noticed, from what seemed to be a great distance, that it was held against the ground by the hot cylinder head of the motor. I tried to push the bike off me but had no leverage. It was too heavy.

Besides the pain, a gradual feeling of fear and paranoia began to creep into my emotions as I lay quietly, listening intently for voices; I thought the terrorists had set another trap. I looked up. The stars seemed very bright and close enough to touch, although they might have been the stars in my head at that moment.

Then I heard shouting and hollering from a nearby sugarcane field. My heart started pumping like a big-bore piston. I reached back into my saddlebag where I carried a large hunting knife . . . at least I would make a stand!

The braying of an ass came from the surrounding hills; then I heard two Spanish voices nearby:

"Did you hear it?" one asked.

"Yes," said the other. "Over there."

When the sugarcane cutters reached the road, they must have been surprised at the sight of a wild-eyed knife-wielding man lying in a ditch beside a motorcycle. Shortly afterward, more field workers arrived and my bike was finally hauled out of the ditch. I was more than a little em-

barrassed and I put my knife away. I struggled to my feet and limped away from the bike. Now that the pressure was off, I felt an aching burn below my knee and looked down to see that the pants, skin, and flesh had been burnt away, leaving a bloody abrasion on my leg.

Fortunately, my guard pipes had taken the worst of the fall, and except for a bent handlebar, nothing else was damaged. I learned from the workers that there had been another accident on that curve only hours before and it had left an oil slick on the road. What amazed me was that no one had bothered to clean it up.

I felt lucky, however, just to be alive. While the men were loading the cycle on a flatbed truck to take it and me to the capital, I looked up once more into the sky. The twilight had completely disappeared, leaving a black silhouette of the surrounding mountains against the star-filled background. I felt as though I had been born again and that feeling was to last for several days after.

As I climbed aboard the truck for my ride into the city, one of the workers grabbed my arm.

"You know, sir, you are very lucky," he said.

"Of course," I replied, happily. "Of course."

"But maybe more than you realize," he continued, pointing to my back. "Look at this."

He unbuckled my kidney belt and held it up for me to see. The back of it where it had protected my spinal cord was scraped down to less than a millimeter of leather by the asphalt highway.

"Yes," I said, looking now at what might have been my spine. "*Tengo mucho suerte* (I have much luck)."

CHAPTER XXII
Little Venice

Now I was heading east. Destination: Maracaibo. But first I had to ride over the mountains of Sierra de Periga in order to cross into Venezuela at Cucuta. There were several dirt roads leading directly through the mountains to Maracaibo, but the rains had begun and the roads were impassable.

Several days after leaving Cartagena, I reached the mountain city of Merida in Venezuela. Still quite small with little industry to change its colonial atmosphere of cobbled streets and old homes, the city was probably one of the loveliest I visited in Venezuela. Pico Bolivar rose with its majestic 17,000-foot peak to the south and late in the afternoon, dark rain clouds would gather around it, forming spectacular thunder and lightning storms. But it didn't last for long.

As I entered the city and stopped beside the street for a soda, the seraped peasants approached curiously, awed at the overall size of my motorcycle. One of the students from the University of the Andes strolled by and explained that most of the people in the smaller cities like Merida were accustomed to seeing motor scooters, but rarely saw a fully decked-out cruising machine with windshield and fairing. My bike was the talk of the town while I was there.

The next morning, I dropped down out of the mountains, skirting Lake Maracaibo. I was traveling north now, through a humid rain forest where giant bugs as big as birds collided with my windshield and onto my helmet.

Lake Maracaibo was discovered 400 years ago when the Italian explorer Amerigo Vespucci found an Indian village built on stilts in its shallow waters. He detected a resemblance between the *grande palazzos* in canal-filled Venice and the simple Indian houses.

"Ah," he said, gazing out on the village in the lake. "*Venezuela* (Little Venice)."

If those same men were to return today, they would see what I saw as I zoomed past the east shore of the lake: oil rigs. The lake bed contains billions of gallons of oil which has made Venezuela the second largest oil-producing country in the world.

Some say the Venetians probably wish there was more resemblance between their canals and Maracaibo. But that evening, I guessed not: As I crossed over the five-mile bridge from Santa Rita to the city of Maracaibo, the lights from the city

glistened off the oil-soaked water of the lake. I was saddened to see that even South America had water pollution problems; the Venezuelans were paying a price for their wealth.

From Maracaibo I rode over the hot, mountainous 200-mile highway to Los Caracas, a resort area 20 miles outside the capital. It was dusk when I reached the ocean resort, but I couldn't wait until the next morning to swim. Quickly changing into my bathing suit, I rushed to the water's edge and plunged into the clean green Caribbean surf, letting the giant body-surfing waves pound and wash away the weariness of the past 10,000 miles.

I woke early the next morning, delighted to find surfers cutting back and forth across dark emerald swells which were breaking off a point. In the early morning light, between the dark sky and the sea, they looked like madmen scribbling across giant blackboards, their white tracks gobbled quickly by the curling waves.

Later that morning, the swell got better. Peeling off the point at Los Caracas, each wave grew slowly into a wall of clear jade, carrying each surfer parallel to the shore for almost 200 yards before it dissipated on a rocky beach. One of the best surfers saw me watching and asked if I wanted to use his board. I thanked him, putting the board into the water and paddling out a bit uncertainly; it had been over a year since I had surfed in the Hawaiian Islands.

From Cuidad Bolivar, I headed east to a little town on the Guiana highlands called Upata. Turning south from there I went toward El Dorado and made another side trip to Angel Falls, the highest in the world—3212 feet from base to top. After the hot 300-mile ride from Cuidad Bolivar, my skin was parched and the cool dip I took in the pond at the bottom of the waterfalls was refreshing. I made camp by the falls and spent the night listening to the deafening roar.

I covered the remainder of the distance from Angel Falls to the Brazilian border at Santa Elena the next morning. The road was bad and the bike underwent terrific punishment as I bounced over rocks and chuckholes. But all this was nothing compared to the shock I received upon reaching the border: No entry!

To be more precise, I could enter if I had $25,000 to leave in deposit with the Brazilian National Bank during my stay in Brazil. This law pertained only to tourists driving through Brazil, and what it amounted to—unless you could post the bond—was no entry. The excuse was the same one which was given to me by the Peruvian border authorities: The bond was to insure against my selling the bike while I was in the country.

I had wanted to continue on through South America to Argentina, but now this was impossible. I could drive a few miles, go off the road, and cross the border illegally. But in Brazil, they shoot people for things like that, so I forgot the idea quickly. I had to turn back.

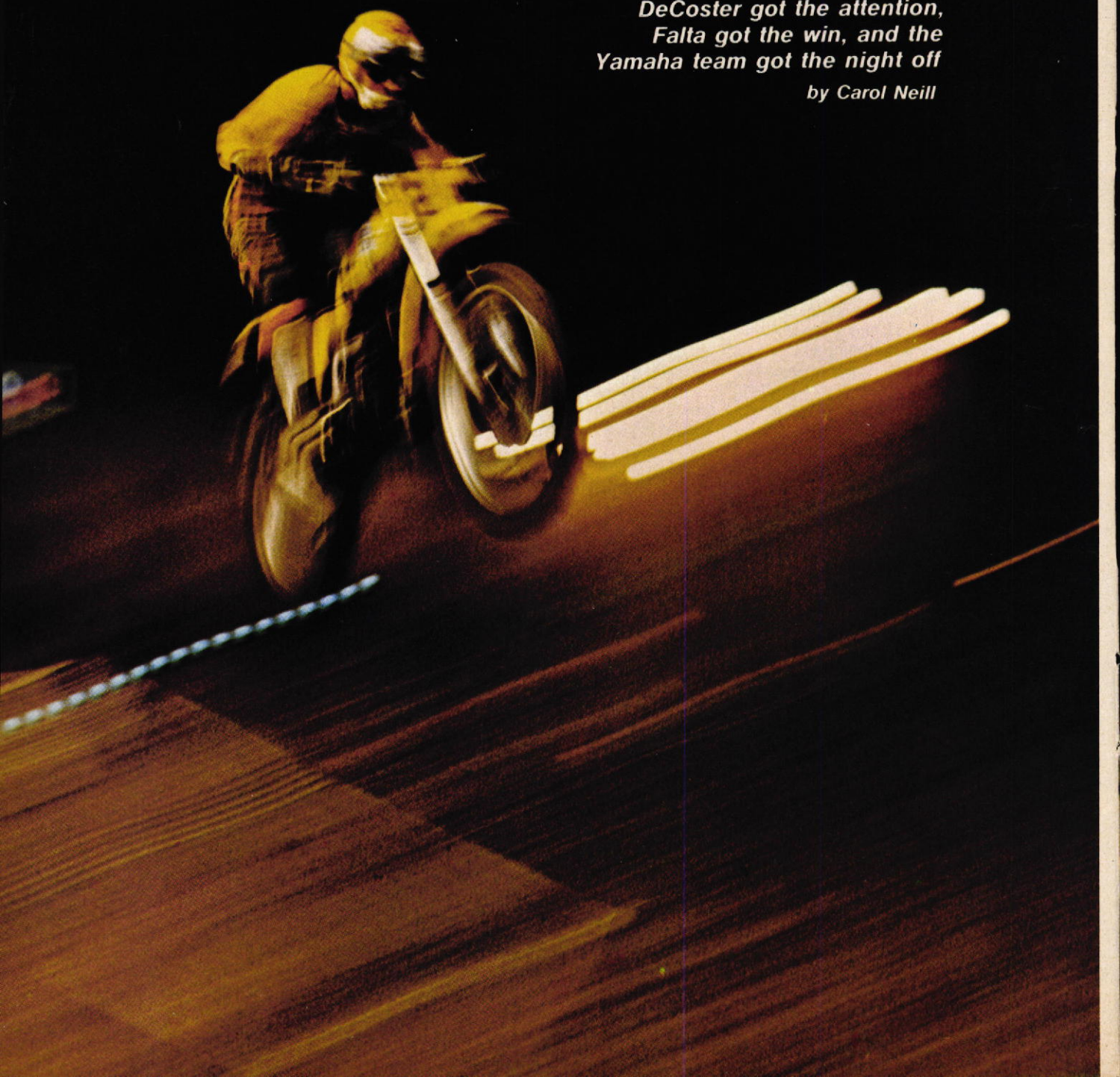
On my way back to Caracas, I had a chance to think and the first thing I thought about was Coty. She was probably sitting on some beach waiting for my return. Mexico was a long way off, but now, after thinking about Coty, nothing seemed impossible. I had made the supreme decision: I was going back to marry this little girl of French descent with the large brown eyes. To hell with Tierra del Fuego! ***CG***

(Editor's note: Coty is now Mrs. Joel Fogel. As the author was traveling through Mexico, he decided to take a ride to Yucatan, Mexico's tropical peninsula and then take a ferry to an island off the coast called "Isla Mujeres" (Island of Women). After spear fishing one afternoon, he came ashore to cook his catch over a driftwood fire and met an extremely attractive girl in a bikini, sitting on the beach. Her name was Coty, and she told him she was native-born Mexican of French descent. After sharing his lunch with her, Coty's mother came and took her away. But as he remembered leaving Michelle at the dock in Anchorage, Fogel decided he must have been destined for women of French descent. Two weeks after he returned to Mexico he married Coty.)

SUPERBOWL: MOTOCROSS ON A RUG

Tripes got the cheers, DeCoster got the attention, Falta got the win, and the Yamaha team got the night off

by Carol Neill



"The Olympia Superbowl of Motocross . . . the most exciting, the most dynamic international event. . . ." If you were in the Los Angeles area the week or so prior to the Superbowl, you might have heard that advertisement over local radio and TV stations. And there was another featuring two-time Superbowl winner Marty Tripes, punctuated by more superlatives like "incredible." Could a motocross on a football field possibly be that great?

The Los Angeles Coliseum had the air of a circus to it as immense throngs of people stood in ticket lines while peanut and popcorn vendors hawked their goodies. One old man was even trying to sell collapsible opera glasses to those who might find themselves in the upper reaches of the vast stadium.

Meanwhile inside, the motocrossers, entered by invitation in the 250cc "International" class, paraded out to the infield podium. They were individually introduced by the announcer, resplendent in his burgundy, crushed-velvet formal dinner jacket. "And now, ladies and gentlemen, National Number One, Garrrrryyyy Jones!" The crowd of over 47,000 loved it.

The track behind the introductory proceedings stood in readiness. It was a Rolf Tibblin-designed serpentine that squiggled back and forth across and around the bowl of the Coliseum, snaking up into the stands and through the arches at the top. The tons of dirt that had been dumped along the course to form the track were heaped upon 70,000 square feet of carpet, put there to protect the grass underneath. As the lights of the stadium were turned on, splashes of vivid colors—Marty Tripes' red leathers, Roger DeCoster's yellow leathers and bike, greens and blues of other teams and riders—moved in high relief against the brown of the track.

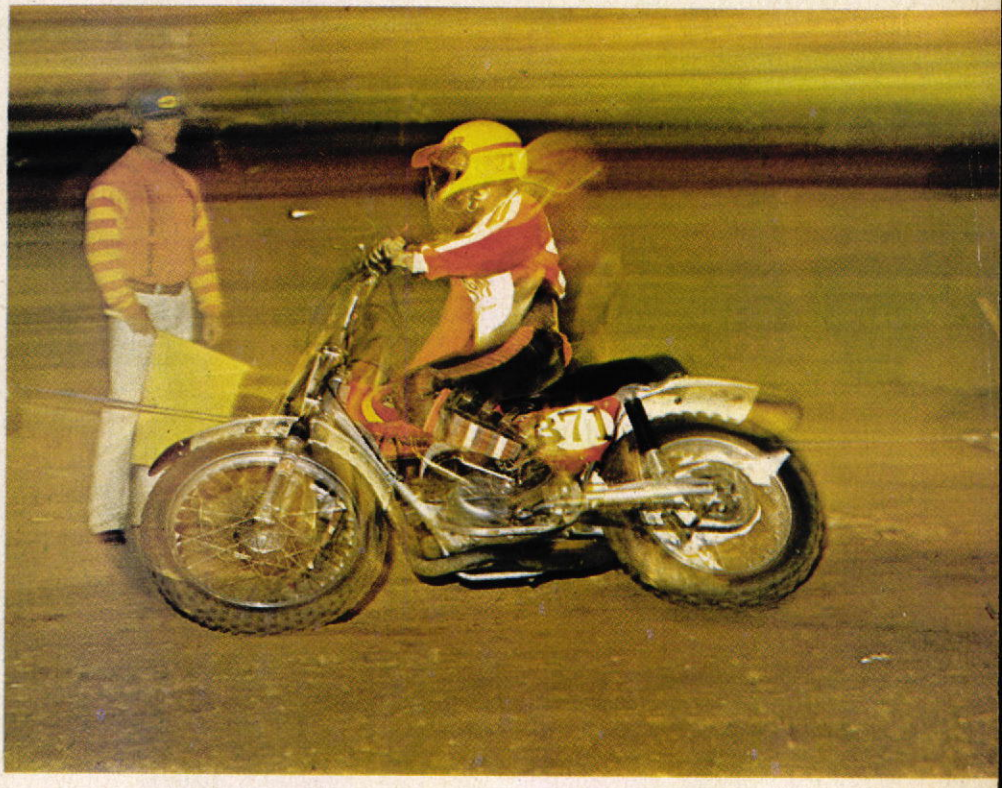
The 250 "International" class earned that name by virtue of the fact that there were several different nationalities present. It was an invitational meet, so it wasn't really an international anything; the only U.S. round of the Grand Prix series was in the 500cc class and that wasn't for another month. Although it was AMA sanctioned, it wasn't run for any points, international or otherwise. And as the riders lined up in the staging area for the first 250 moto, one notable thing about the American team was the absence of several top U.S. riders. Where were Brad Lackey, one of the names mentioned in pre-race publicity, and Jim Pomeroy? And for that matter, where was the whole Yamaha factory motocross team? But the fans weren't thinking of things like that as they tried to out-db the motocross bikes poised at the gate.

Roger DeCoster headed the surge at the drop of the gate with Bill Grossi and Czechoslovakian Jaroslav Falta hot on his heels. Halfway through that lap, CZ-mounted Falta took over the first spot and just simply outdistanced everyone to the finish with his characteristically rough riding style. Displaced by Falta, DeCoster held on unchallenged and finished the moto a distant second—distant from third as well as first. Once the pack sorted itself out in the first three laps, Buck Murphy on a Penton grabbed third and held on until about the halfway point when factory CZ rider Tony Distefano overtook him. Tony stayed put in third to the flag.

A third lap pileup behind the peristyle entangled Peter Lamppu and Bill Grossi, among others. Lamppu, ending up on the bottom of the heap, slightly aggravated an earlier knee injury, while Grossi was put out for four to six months with a broken right leg.

And there was other interesting action further back in the field. As the mob of riders headed down the front straight at the start and roared up the ramp to the Coliseum arches at the top, Gary Jones tangled briefly with the flags marking the outside of the track. He tore out several yards of the tape and flags which promptly wound around his rear axle. This little hesitation cost him valuable places, which he spent the rest of the race trying to regain. The best he could muster at the end was ninth. Ron Pomeroy fell down while running third at the beginning of lap three, picked up and continued, then bobbled, stalled, and restarted in the tenth lap, finishing next to last. Jim Weinert started out dead last but steadily picked off riders until the halfway point. Then he moved into a strong fifth which he held to the end, even after gathering his own length of marker flags and tape around his rear axle. Jim was moving on fourth place Belgian Raymond Boven on a Montesa but couldn't overtake him. Probably the most creditable performance was put on by Marty Tripes, who had lost his Husky's left footpeg on the fourth lap. He rode with his left foot propped on the engine case and kickstart lever stop, fighting off riders like Weinert—for three laps—as best he could to a sixth place finish.

Peter Lamppu led the second-moto charge for a couple laps or so, but was one-upped by Falta who took off on another wild-riding repeat of his first moto win. But this time it was Marty Tripes who gave chase—a good one too, as he began closing ground partway through the moto. Toward the end Tripes dropped back a little to finish a solid second, followed further back by DeCoster. Belgian dentist Gerrit Wolsink trailed for fourth with Tony Distefano fifth, his consistency showing.



Because the narrow track prevented a lot of passing, the Support class resembled a freight train. Mark Cook was 13th boxcar overall.

This time around, Weinert was slowed by a split in the bottom of his Kawasaki's gas tank. Gary Jones had problems of his own too. As he fell during the moto, the throttle stuck wide open. When he picked the Can-Am up and continued, he found it had no power. So after the moto, Poppa Don tore the head off and discovered a broken ring, which he hastily replaced.

By the third moto strange things were happening to the track: The carpet underlying all that dirt was buckling and coming undone. But it was Tripes' and DeCoster's time to shine, and they didn't

seem to mind. Tripes led the first 11 laps, then relinquished the top spot to DeCoster, who carried it to the end. On the 13th lap Marty was displaced to third by Falta. Tripes found his Husky a little down on power; also, his header pipe worked its way out of the cylinder in the last few laps. But more than that, 200-pound Tripes was leery of how much abuse his footpegs would take after breaking one in the first moto, so he took jumps conservatively. But the real story of the third moto was the spectacular show put on by *all* the first four riders: DeCoster, Falta, Tripes, and Distefano. Way out front they moved as a tightly-knit unit, accelerating, slowing down to jam into the turns, accelerating again as one, bringing the crowd to its feet every lap. Falta doesn't often get the chance to compete against DeCoster so he wanted the win, but with two moto wins already under his leathers, he seemed content with a second this time, making sure he didn't overextend himself or his CZ. Distefano, completing the tight little foursome, was ever ready in case someone made a mistake.

So 23-year-old Falta did what he set out to do with an overall win over the older DeCoster. DeCoster's second overall reflected his dislike of the track: too narrow for passing, he thought. When he found himself following Tripes in the third moto, he cooled it, waiting for Tripes to make a wrong move. When he finally got around Tripes just at the end of the eleventh lap, he picked up four seconds' time in the next lap. Tripes picked up a third overall, breaking his two-time winning streak at the Superbowl, and holding Tony Distefano to a fourth overall. But then Tripes was first American overall, and that's no mean trick in itself. Somehow during the race, you never seemed to notice Raymond Boven, so unspectacular and smooth was his riding, but at the end he held down fifth. Jim Weinert logged in with a sixth overall and noted afterwards that his real preference was for the big open class bikes.

Throughout the evening, the announcer carried on a running commentary based primarily on whipping up patriotic support for the home team. He was aided and abetted by the head cheerleader, the scoreboard at the top of the peristyle. It spent the evening electronically shouting, "Go Go Americans," "Charge Charge Charge," "Wick It, Marty," and "Go Marty Go." Perhaps a little overenthusiasm for the hometown hero could be forgiven, but not even so much as a single "Welcome Europeans" flashed up there the entire evening.

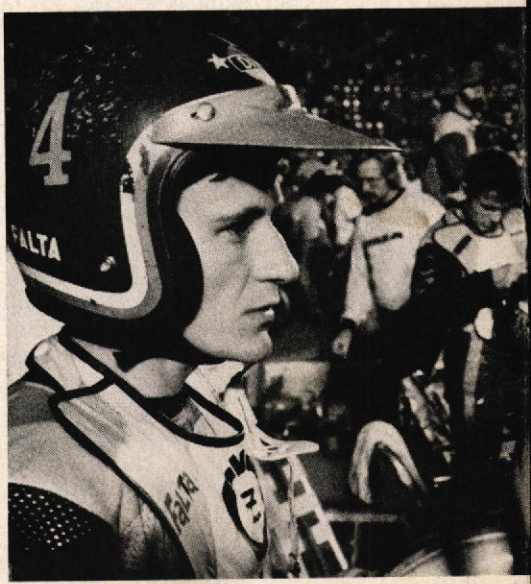
The 500cc Support class was a clearcut Rex Staten victory. He led the second and third motos from the drop of the starter's time card to the checkered flag (although his first-moto finish was a fourth). As he pulled farther and farther away from his competition each time, he indulged in showy displays of crossed-up jumping and spectacular, long-distance soaring off the anthill on the back portion of the track. The fans shrieked their approval every lap. He, in turn, acknowledged their support with a wheelie and hand raised in a peace sign as he crossed the second-moto finish line.

Bryar Holcomb led the first 500cc moto on his Bultaco from the gate to the ninth lap when he took a tumble, yielding the top position to Jim West, who held it to the end. West added a third and a second for second overall. The 500cc class was very much like a parade, with very little position swapping, leading one observer to note that whoever got the hole shot out of the gate had a stranglehold on the checkered flag because of the narrowness of the track.

The evening's big-time racing was punctuated by two intermission specials. First was a 125cc high school event, won by 17-year-old Marty Smith. His victory was perhaps a little tarnished by the fact that he's a sponsored Honda factory rider—not exactly an average schoolboy motocrosser type. Under the pressure of racing in front of over 47,000 people, the field of teenagers was reduced by a number of multi-bike pileups, resulting in a few strawberries but no injuries.

The other break from the regular racing program was an exhibition "race" between the disc jockeys of local radio station KLOS, all mounted on shiny, new 100cc Kawasakis and outfitted in brightly-colored leathers and helmets. One fellow even had a wind whip fastened to his rear fender, so confident was he of his prowess on two wheels. Of the dozen or so an-

PHOTOGRAPHY BY STEVE FRENCH AND ART FRIEDMAN



Jaroslav Falta's delicate features belie the fact that he's one of the toughest motocross riders in the world.

DeCoster practicing in the afternoon sun. That's not a mustache above his mouthguard, that's true grit.

Camera flashbulbs in the stands lit up like hundreds of fireflies every time Rex Staten did this.

Even top American riders like Jim Weinert didn't get any start money. He was third American overall.

nouncers lined up behind the gate, only about four actually lurched forward as the race got underway. They wheeled down the front straight, looking like characters in slow motion. The event ended ingloriously in a heap of jumbled wheels and flailing legs halfway down the straight.

As the third 250cc International moto ended with the explosion of DeCoster, Falta, Tripes, and Distefano across the line, hundreds of kids of various ages surged onto the field and into the aisle at the bottom of the Coliseum near the pit area, a long, skinny piece of the Coliseum bowl enclosed by wire fencing. Scores of hot hats and programs were pushed through the holes of the fence by kids eager for the autographs of Roger DeCoster and anybody else they could identify. The shyer ones stood eagerly ogling the exotic machinery and gazing at their heroes face-to-face without their helmets. The wire fencing was quickly reinforced by a human fence of college-football types—a security force hired to maintain crowd control. They weren't the sort you'd like to tangle with, so the crowd remained controlled. Some of the security jocks were a little rough-handed, though, and one even reportedly conked a youngster on the head with a pop bottle for straying too far off the beaten path.

And what of the top-flight American riders who were conspicuous by their absence from the lineup? Grumblings about money paid—or not paid—by promoter Mike Goodwin were heard. Brad Lackey was there in the pits, dressed in street clothes and one of his ever-present hats, this time a blue denim engineer's cap. He stated that the promoter required all the Americans to race for no start money whatsoever. He wasn't at all happy about that. After all, these are professional racers making their living on the track, and this was an invitational event, yielding no valuable points of either the AMA National or FIM International variety, so there had to be an incentive of some sort. Yamaha team manager Pete Schick wouldn't let any of his team—Karsmakers, Hart, or Hartwig—participate in the event, naming the upcoming Inter-AMA series as the reason. He didn't want the team's machines, which were being prepared at that time for the series, ruined by any such track or non-points race. But Karsmakers also indicated that the money problem was a deciding factor. Even some of the participating riders were a little down at the mouth about it. No start money meant a lean evening for many.

So whether or not you felt the Superbowl of Motocross lived up to the extravagant claims of the pre-race advertisements depended pretty much upon who you were. If you were the promoter, you had to be happy—47,000-plus paid attendance is nothing to scoff at, even after you subtracted expenses and overhead. If you were a racer, you just might have been unhappy over the lack of hard cash or maybe, depending upon which rider you were, over the track—a little on the narrow side and fenced by some unprotected retaining walls. But if you were a spectator, you were probably pretty happy and maybe even had some autographs to remember the evening by. After all, there was some good racing that night in the Los Angeles Coliseum. ***CG***

RESULTS

250cc International

1.	Jaroslav Falta	CZ
2.	Roger DeCoster	Suzuki
3.	Marty Tripes	Husqvarna
4.	Tony Distefano	CZ
5.	Raymond Boven	Montesa
6.	Jim Weinert	Kawasaki
7.	Gerrit Wolsink	Suzuki
8.	Jan-Eric Sallquist	Kawasaki
9.	Zdenek Velky	CZ
10.	Gary Jones	Can-Am

500cc Support

1.	Rex Staten	Honda
2.	Jim West	Husqvarna
3.	Bill Clements	Husqvarna
4.	Bill Payne	Maico
5.	Terry Clark	Husqvarna
6.	Mike Todd	Maico
7.	Ron Self	Montesa
8.	Gary Semics	Husqvarna
9.	Scott Jordan	Bultaco
10.	Gaylon Mosier	Honda

BEECH BEND NATIONAL DRAGS

The AMDRA gets going at full throttle, TC gets the gold, and a star is born. Look out, seven seconds!

by Jack Mangus/Cycle News East

PHOTOS BY JACK MANGUS AND BOB LENK/CYCLE NEWS EAST

Terry Vance set a new National Top Gas record. His Honda "eight" turned 9.25 at 153.58.

"Oh my Gawd!"

"Ain't that *bitchin?*"

Russ Collins was unloading his RC Engineering "Atchinson, Topeka, and Santa Fe" triple-engined Honda 750 and blowing everybody's minds. Getting near the 700-pound Top Fuel Honda "twelve" meant working your way through a horde of gaping, mesmerized spectators, most of them with blown minds.

The whole thing was a blow-mind. Motorcycle drag racing has usually been a Spartan ordeal for spectator and participant alike, but Beech Bend Park in Bowling Green, Kentucky, and the American Motorcycle Drag Racing Association are doing a lot to change that. Those used to living out of their vans, motor homes, or saddlebags were startled by Beech Bend's "free" camping. A dime a day per person can hardly be called paying for it, especially when there is water and electric hookups, cafeterias, Laundromats, and a 42-ride amusement park included in the same shady-tree setting. And there is room for all; Beech Bend boasts 6500 campsites. It all makes it a favorite stop on the drag-racing circuit. Think about it: ten cents a day—in 1974 yet.

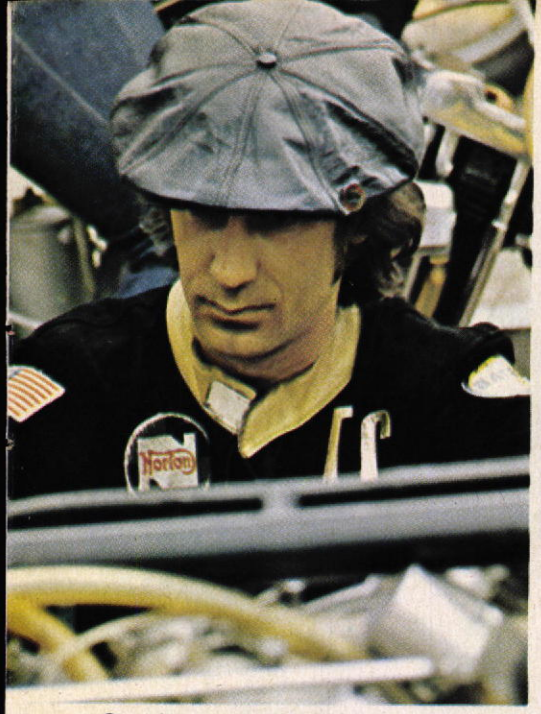
But few participants or fans had time to see, let alone sample, any of the rides in the amusement park. The AMDRA made the sportsman rider's lot a rosier one by offering money to the three classes of supposedly non-professionals. Not enough to buy another bike, or even a healthy piece of one, but enough to ease the gas bill on the way home. The pit gate opened at 9 on Saturday, and the lines of sportsman riders waiting to qualify stretched clear out of sight from the staging area.

Topping the sportsman riders was Competition Eliminator winner Bill Coney. "It just isn't worth running for $150," Bill reflected. "I'll be running the Pro Stock class in the future." But he still smiled when handed his trophy. Glory has no price.

Russ Collins gave credence to all the Ohmygawds and Bitchins in qualifying. Fresh off the trailer and all the way from Gardena, California, the RC Engineering triple took 8.54 seconds to qualify in its competition debut, setting the quickest time of the meet. AMDRA National Champ Sonny Routt, number-two-ranked Bob Mauriello, T.C. Christenson, Marv Jorgenson, and Mike Bruso reacted mostly with beady eyes and set jaws.

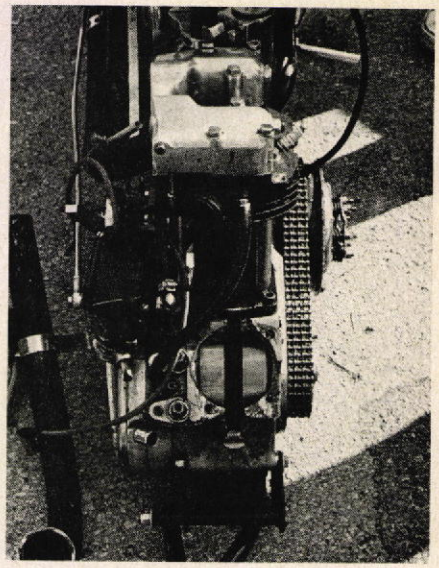
Pro Eliminations saw the downfalls of many of the favorites. Bruso qualified quickest in both Pro Stock and Junior Gas and then watched his chances vanish with a snapped chain and a missed shift. He went home with 75 bucks and memories of drawing the greatest crowd reaction when the fastest qualifiers were introduced. His three-girl pit crew, all wearing matching outfits, perhaps helped draw that reaction.

In Pro Stock Bob Mauriello fell to the Harley of John Heidt, 10.50 to 10.70, 128.2 to 127.1.

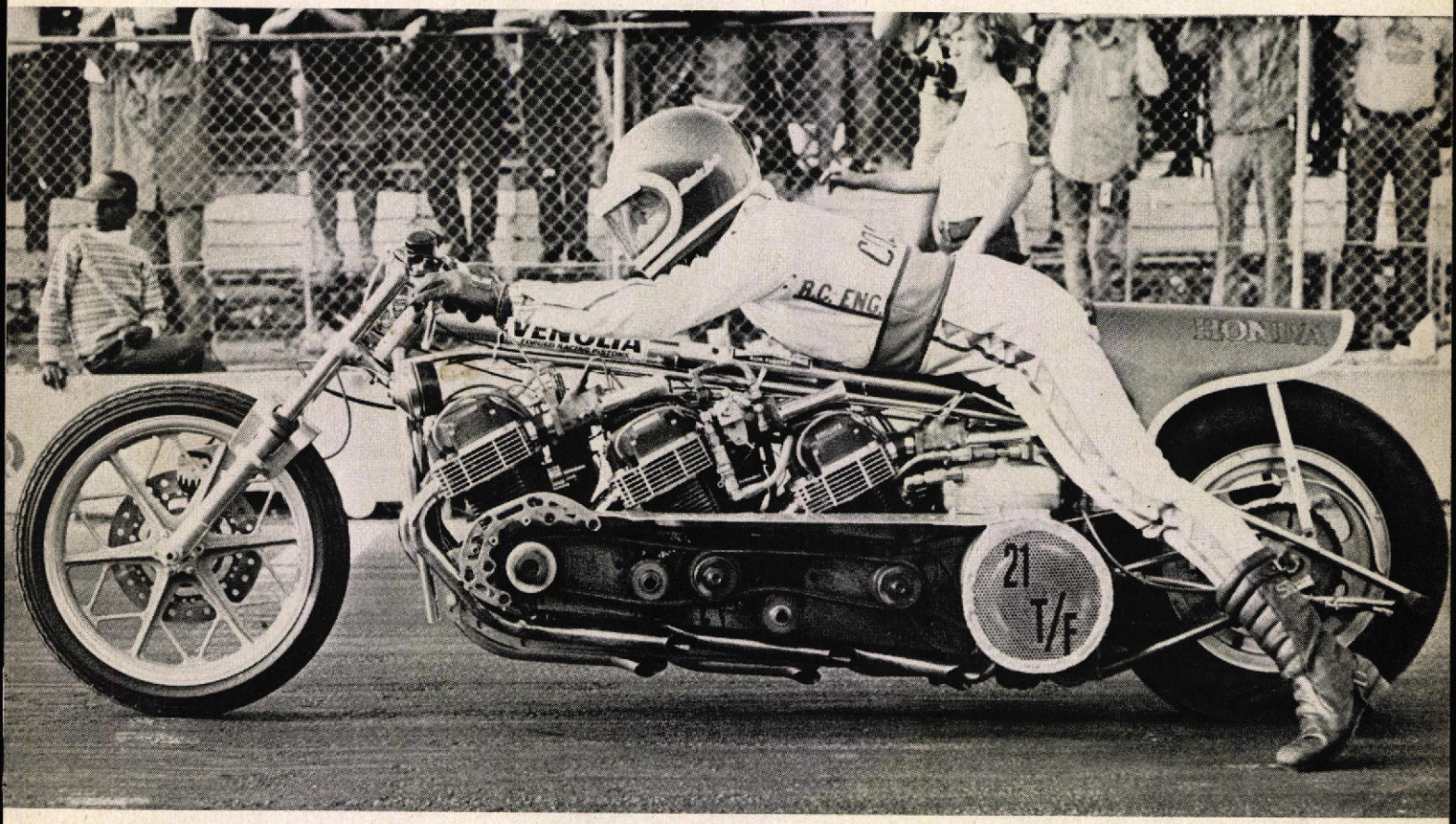


Consistency and reliable equipment made T.C. Christenson the big winner again.

Mike Bruso's pit crew was the hot setup. The crowd seemed to like it too.



He was just driving through the traps at a hundred and some odd miles per hour when his engine decided that enough was enough. Sawed the frame in half, too.



The RC Engineering "twelve" attracted a lot of attention, and Russ Collins proved deserving of the crowd's admiration, scurrying to fast time of the meet.

"You can't win 'em all," shrugged Routt after his elimination.

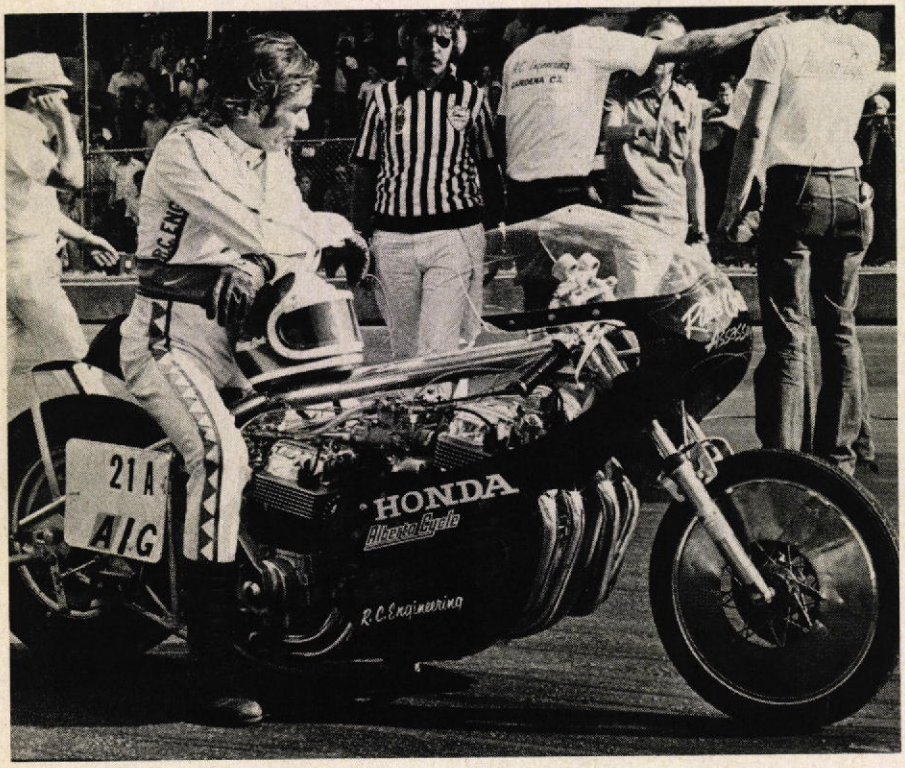
Bo O'Brechta's Green Streaker Kawasaki streaked home ahead of Ken Tuttle's Honda to give Bo his first Junior Gas win of the year after three runnerup finishes. Bo's smile was one of the largest of the weekend.

Junior Fuel was a squeaker. Bill Smith's Triumph edged Ed Smalley 9.87 to 9.99. The big numbers were 140.62 to 138.24 mph.

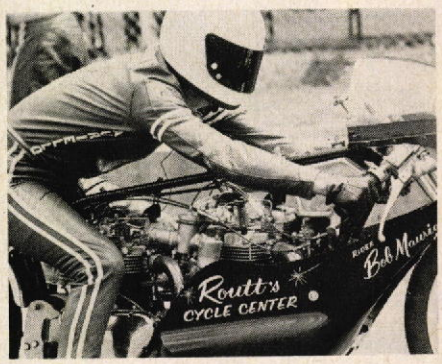
That brought out the two big classes, Top Gas and Top Fuel, and fastest qualifier Russ Collins was looking for a double win for his triple's debut. His first elimination round had been a solo run. He came to the line for his second elimination run with those twelve cylinders howling. When he lit it up the chain connecting the first and second engines broke. Prior to the finals he made an exhibition run and turned up a "slow" 8.7 as he veered towards the center line and lost "half a second" straightening it out.

"We're satisfied. I couldn't open her up more than half throttle, and as soon as I get a proper-sized tire . . . Look out! Collins promised. A proper-sized tire for the triple will be something on the order

This man is in the process of killing every mosquito in Kentucky. It also warmed up his tire.



Collins' Honda "double" redlighted on his Top Gas run. Here his crew argues that perhaps the lights were not in perfect order. The referee disagreed.



Bob Mauriello fell prey to John Heidt's Harley. Two tenths of a second made the difference.

of T.C. Christenson's eight-inch-plus wide car slick. The best Collins could dig up for Beech Bend was a "little" six-inch wide weenie.

Collins wasn't down about being eliminated in the Top Fuel class, but he was downright moody about being red-lighted out of the Top Gas contest. He never even left the line as a red light came on in his lane and he watched his competition disappear down the 1320 to the traps. His crew berated the officials, protesting that the lights were defective. Collins slowly pulled off his helmet and worked up his best mean look for the officials, but a lights-don't-lie look from the referee decided it. Russ dropped his gruff appearance, shrugged his shoulders, and headed for the pits.

But RC Engineering wasn't all done with Top Gas. Terry Vance, Collins' parts manager, upheld the RC reputation by trouncing Marv Jorgenson's Harley and setting a new National Top Gas record. His Honda, with only two engines, turned a 9.25 ET at 153.58 mph.

The final run of the day was the Top Fuel final, and there at the line was quick, consistent TC Christenson on his Norton double. Against him was Virgil Noff and his Harley. After all the attention given to the Honda triple, T.C. was particularly happy with the run: 8.66/166.35. Noff was well behind with 9.62/139.31.

A lot of the heavies came up losers at Bowling Green, but one was a winner. For AMDRA director Roy Strawn, who in his spare time handled the announcing, registration, the staging, the trophy presentation, and everything and anything that had anything to do with the meet, it was a victory in the grandest manner. In this, the first year of the AMDRA's affiliation with the National Hot Rod Association, Strawn can finally see the future of motorcycle drag racing looking up. Strawn, through the AMDRA, *is* motorcycle drag racing in this country and, after years of trying to get his way of life off the ground, he's succeeding. ***CG***

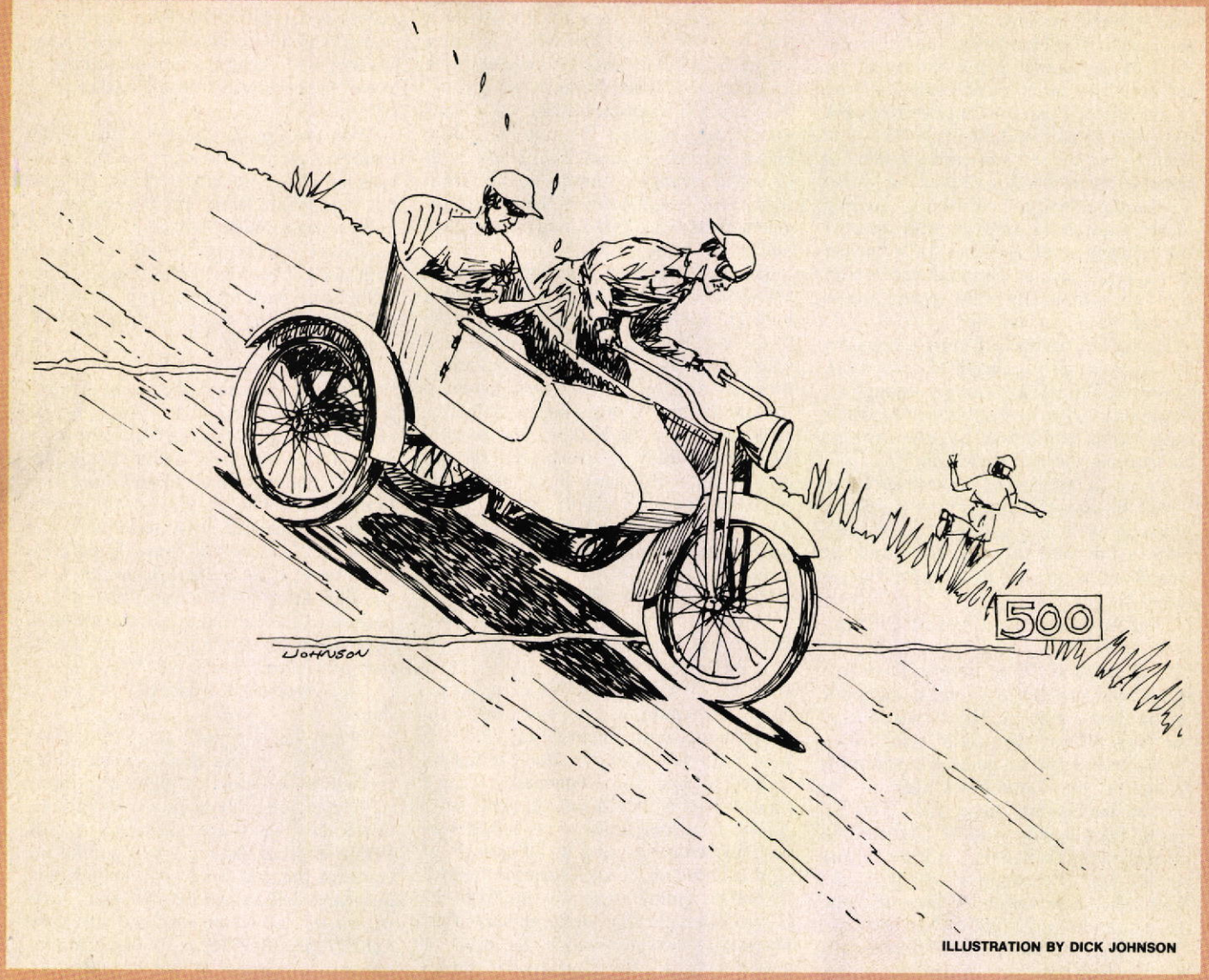


ILLUSTRATION BY DICK JOHNSON

THE WILD LAST RIDE OF LIVERLIP HARPER

Some people just never learn

by Gene Bizallion

The first one of the old motorcycle bunch I met when I hit Newark after an absence of several years was Two-Ton Tony Russo. He must have been working hard or have met with lean times; I swear he didn't look an ounce over two-fifty. The lunch wagon was long gone, so we adjourned to the nearest restaurant. While we recalled the old days, Tony did his best to regain his former tonnage.

"What about Liverlip Harper?" I wondered.

His real name was Everet Harper, and I remembered that he seldom did anything right, which is how he earned his nickname. One Fourth of July he was lighting firecrackers with his cigar and throwing them into a gravel pit when a fuse lit unexpectedly with a blinding flash. He panicked, hurled the cigar away, and clamped the firecracker in his mouth. From then on he was Liverlip Harper.

"I was a-comin' to him," Tony said soberly. "Old Liverlip rid his last ride some time back."

This was quite a shock, although I suppose I should have expected it. "How come no one ever let me know?"

"Well, no one knew where you was at. But hol' on . . . it wasn't as bad as you think."

"Wasn't as bad!" I shouted.

"Now lissen," Tony urged. "Actually he never should of got a cycle in the first place. You know that."

I knew that and said so at the time, but there was no discouraging Liverlip. And, come to think of it, there was no one more likely to wind up with a motorcycle than Liverlip Harper. He bought a Henderson with a sidehack; in the Twenties the Hen was about the only motorcycle with a reverse gear, and that's what he wanted. But a reverse gear on a motorcycle wasn't always easy to remember.

Along about the third day that he had the outfit, he was parked in front of Jim Sales' house, talking Jim's daughter Sally into the sidecar. She climbed in gingerly while her younger sister and two companions stood admiring her courage. Directly behind them, Sales was firing up his Model T tourer. He was just shouting for Sally to stay out of Harper's hack when lightning struck.

With that kind of audience, Liverlip was not likely to drive away sedately. He crammed it into gear—reverse, by mis-

take—poured the coal to it, and popped the clutch. The Henderson lunged backward, lifting Everet into a handstand on the bars. The outfit crashed into the front of the Model T, catapulting Liverlip back over the windshield to drop feet first through the car top and land astride Jim Sales. In the uproar Jim yanked the Model T's throttle down, and old Henry, lurching ahead, pushed the sidecar outfit up over the curb and across the lawn. Sally ducked down in the hack as it was jammed under the front porch. The entire porch had to be torn up to get her out.

Harper's relations with most of the Sales family were pretty strained after that. However, Wilma, the youngest daughter, maintained that it had been the most magnificent exhibition of unwarranted catastrophe she had ever seen.

Two-Ton interrupted my retrospection. "Well, in time ol' Liver finally got pretty chummy with the youngest Sales girl, Wilma, but with th' resta th' family he was about as popular as th' membranous croup."

"Did he ever get back in with the family?"

Tony grunted, "Well, almost. It seemed like they'd just get over one kaflumence an' another'd pop up. Th' durn idiot had the hack off one day, ridin' solo. Down by Lincoln Park he come up behind a trolley on that three-block run, an' he spotted Sally leanin' on her chin, a-starin' out th' open trolley window. The car was rockin' along about thirty, an' th' Henny ran so quiet she couldn't hear it. So ol' Everet, he lay down on th' bars an' come up alongside, right under her window. Then he riz up quick on th' floorboards with his face right next to hers an' yelled, 'YAAAAAAA!'

"Well, ain't hardly no one expectin' a head showin' up outside a movin' trolley, an' it tore Sally *all to pieces.* She lit in th' aisle a-screamin', an' th' motorman's nerves snapped. He big-holed it to a screechin' stop, an' that sent Sally an' three other women a-runnin' down the aisle to wind up in a heap with th' motorman. A motorsickle cop behind th' trolley had t' grab a quick right up over th' curb an' inta th' fountain in th' park . . ."

"And Liverlip?"

"Oh, he just rid on like nothin' had happened. Sally went down an' cornered him at th' roomin' house an' clum him like a *ladder!* She et on him like a barracuda 'til he promised to lead a whole new life. But she still didn' pry him off the cycle."

"If only he had quit then," I lamented.

"Yeah," Tony nodded, "but he didn't. He gradually got back in pretty good with th' family an' it looked like him an' Wilma was so-so. Even ol' man Sales got to kinda toleratin' him, an' then, natur'ly . . ."

"Naturally," I agreed.

"Liver had traded th' Henny on a Harley hack outfit, an' seems like he got tired of tryin' to scare guys liftin' th' hack. So he practiced cuttin' such a fast left U turn that he could lift th' hin' wheel an' turn on jus' th' front an' sidehack wheels, with th' nose of th' hack bumpin' th' groun'. Well he took a notion to try it with Sales in th' hack—how he got him in I don' know—an' right in front of th' house, with th' whole family a-standin' on th' front porch, ol' Liver guns it, kicks out th' clutch, an hollers, 'Get a load of *this!*' An' he cuts th' turn.

"He probably hadn' ever tried it with a passenger, an' th' extra weight fooled him. Th' hin' wheel went so high th' nose of th' hack dug in, an' th' whole rig pinwheeled up an' over with Sales a-yellin' bloody murder. It throwed Liverlip through th' air, landin' him on his hands an' knees like a big bullfrog, an' he slid. Sales wasn' hurt so much, but he got pinned under th' outfit 'til th' neighbors pried him loose. Then he run ol' Liver down th' block with a tire pump through halfa dozen people's back yards, but he never caught him."

"That really tore it," I figured.

"Naw . . . not quite yet," Tony said. "There was little things."

"How little?"

"Well, ol' Liver got kinda skun on th' hands and knees, so they had him in th' hospital for some patchin', an' while he was there you'd never guess what he wanted th' doc t' do. Remember Chuck Buxton had a thumb cut off in a saw? An' he'd set sometimes when people was watchin' with th' stump of his thumb up agin his nose an' folks got shook thinkin' he had his thumb all th' way up his nose? Liverlip thought that while he was in th' hospital anyhow, it wouldn' be much of a job for the doc to jus' whack his thumb off. Then he could pull Chuck's gag. Not *too* screwy, I guess."

"But then the men with the white coats . . . ?" I guessed.

"They had him on th' chutes," Two-Ton agreed, "but Sally saved his bacon."

"Sally?" I asked. "But I thought Wilma . . . ? How did *she* take it?"

"Oh, she thought it was so funny that goin' home from th' hospital she got to laughin' an' fell offa her bicycle an' broke her arm. Her dad blamed ol' Liver for that too."

"How the deuce did he ever talk his way out of that?"

"I dunno, but he did . . . an' then he rid his last ride."

"The last? Maybe I better not hear about it."

"Wait a minute," Tony protested. "You see that character had been wantin' t' ride down one of th' hillclimb hills with th' hack 'cause no one had ever done it before. An' out at Martin's Creek th' mornin' before a hillclimb, he got his chance. Make a good 'first,' he figgered."

Or a lurid "last," I thought. I knew those hills were so steep you could hardly claw your way up on hands and knees. They were at least 500 feet long, and even the professional hillclimb jobs with skid chains weren't ridden down. They were lowered with a rope snubbed around a tree or by a tramway. "You mean he tried it?"

"You ain' jus' a-whistlin' Dixie. Now Liverlip figgered he'd need weight in th' hack an' was aimin' to shovel in some dirt, but little Willie Rand was a-settin' in th' hack, watchin' th' guys workin' on th' hill. So Everet seen he had a ballast already in th' hack an' says to Willie, 'How's about ridin' up th' back trail t' th' top,' an Willie didn' see nothin' wrong, so they took off. Well, you'd a died . . ."

"I'll bet you my knife."

"First off, Liver said, they went through a field fulla daisies, an' little Willie reaches out an' grabs a han'ful, then starts that silly business of pullin' petals an' recitin', 'She loves me, she loves me not.' It was a easy ride up through th' woods, an' they came out right at th' top. But Willie didn't know that 'cause th' tall grass there made it look like a little flat field. He didn' know—Willie didn'—that a couple hunnert feet ahead th' ground dropped right down for five hunnert feet like th' roof of a barn."

"And Willie," I ejaculated, "just sat there!"

"Yeah. Jus' a-settin', goin', 'She loves me,' an' so on. So they coasted along through th' tall grass an' right at th' brink ol' Harper yells, 'Hang onta your hat!' an' down they went like fallin' off a cliff. Willie throwed daisies a half a mile an' clamped onta th' hack with both hands, a-screamin' like a banshee. Th' guys workin' on th' hill come unglued an' dove behin' trees. Then jus' as they got movin' about sixty or better, Willie, he bailed out. Willie almost beat th' outfit t' th' bottom, goin' head over heels an' gettin' cobbed from one en' t' other."

"And Liverlip . . . ? I mean, about then, he . . ."

"Not a scratch," Two-Ton said. "Not yet. This time Willie's folks had Everet arrested an' was goin' t' sue him for who tied th' cat."

"That *still* didn't stop him?" I worried.

"Ain't that easy to unhorse ol' Liver. But then Sally took over. She talked th' Rands inta lettin' her handle th' deal. She got a court order yankin' Liverlip offa th' cycle, she fixed it for him t' pay Willie's repairs by th' week, and then she married him."

"But you said . . . !"

"I just said he'd rid his last ride, an' I mean he *had.* So help me, Sally seen to it."

"But him and Wilma . . . ? I thought . . ."

"Oh, she ups an' marries little Willie. Figgered he needed someone as bad as Liverlip did. An' I reckon he did. But lemme tell you what happened t' Chuck Buxton—you'da died. It seems this peddler run out in fronta Chuck with this pushcart fulla ice . . ." **CG**

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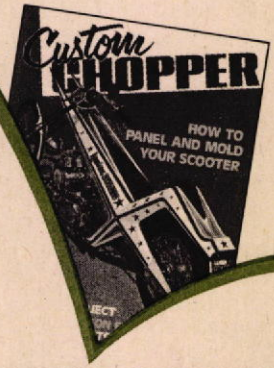

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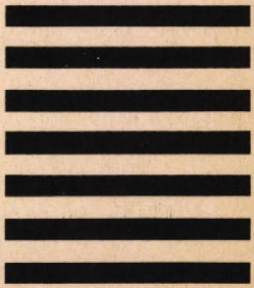

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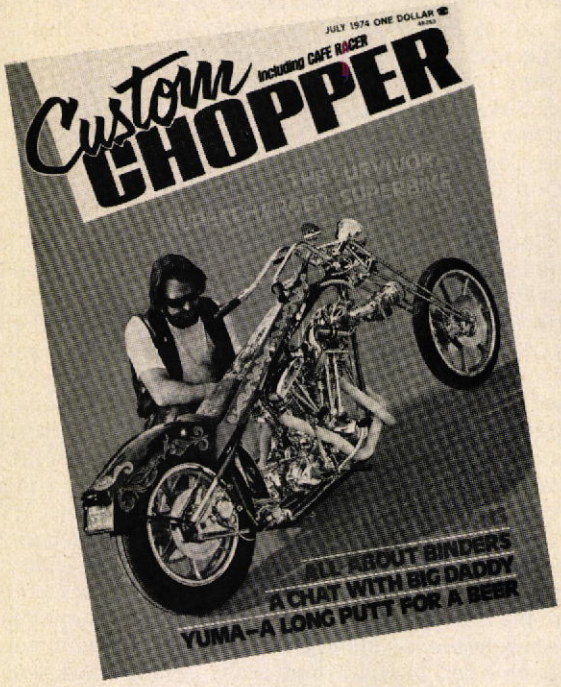

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RUSS SANFORD AND M.O.R.E.

Continued from page 43

business end of cycling for years were suddenly working for MORE, selling memberships. It was such a radical departure from the slow, steady, word-of-mouth, one-man operation that people ran screaming in the other direction. MORE America was about as successful as an acetone martini. Shortly thereafter it was impossible to reach Russ Sanford: His phone had been disconnected.

In early March of 1974 the death of Russ Sanford was announced in a flowery tribute entitled "In MeMOREiam" by Charles Clayton, the editor of Cycle News. *It was implied that he had died of starvation and overwork, unappreciated and unloved by those he served. Contributions were solicited for his "widow." The hoax was revealed in the following issue of the newspaper.*

There were lots of reactions to the story of Sanford's "death" and subsequent resurrection, ranging from grief through anger to guilt. Cycle Guide *reacted by asking me to write this article, a not entirely welcome assignment from my view.*

There were a lot of serious questions one could ask about Russ Sanford, such as: Was he representing most motorcyclists? Or was he representing industry? Or just himself? Since he wasn't making much money and didn't seem to be much of an enthusiast, just what was driving him? Is he basically honest? Effective? Just listing these questions is depressing. After all that had gone down, the answers to them, on the face of it, seem unlikely to be positive, and hell, there aren't that many people around who can still shoot a good game of pool after drinking beer all night. I kept thinking of Senator Fulbright, one of the most respected politicians in Congress, defeated in his home state by a plastic kumquat because he had become so involved with the Washington scene that he forgot about the people of Arkansas. In our sport I suspect that you have to get on a bike and run into about five of the "No motorcycles allowed" signs, feel the death breath of a cop helicopter over your head, or buy six $15 green stickies before your soul is seared sufficiently to really represent motorcyclists. But on the other hand, even though you might suspect that the pillar is wormy and weak, if it's the only pillar holding up the roof, do you really want to kick it just to test it? There sure as the world isn't anyone else in Sacramento representing us. If you're a journalist, I guess you kick, but it's not much fun.

The interview was not easy to set up. After trying four different phone numbers, three of which had been disconnected, I got through to Russ and made arrangements to interview him on a Monday when I would be up there on another assignment. Russ was at his office at the appointed time, but he couldn't do the interview. Several industry people were with him and he was headed for the State Capitol for an important meeting. One of those with him was Jim Potter, president of the Motorcycle Industry Council. The meeting had to do with the noise standards for the State of California that were due to go into effect in 1975. Russ would tell me the details, but only on an "off-the-record basis."

I didn't need that, so I set up another meeting with Russ, this time in L. A., and then made a few phone calls. It seems that the noise standards that were to be met were proving difficult for the industry. Although Honda could meet them with their entire line for 1975, Harley-Davidson couldn't meet them at all, with any of their bikes. Other companies fell between these two extremes. Russ had been hired by the MIC (or possibly Harley—that I couldn't find out for certain, but since Potter was in on the deal, the MIC seems more likely) to secure a postponement of the new standards. As a known industry front-man, Potter himself couldn't get the right time from a legislator's secretary. Whether or not this sort of activity is in motorcyclists' best interests depends on where your head is with respect to environmental problems and the response (or lack thereof) of industry.

Russ didn't keep the second date either. He called from Sacramento (at the time our interview was supposed to start in L.A.) and offered to fly down. Although I was very tempted to tell him, "Sure, hop on a plane and come on down," I didn't. Even journalists sometimes find their natural level of chutzpah insufficient to the occasion.

A third date was set in Sacramento. Russ wasn't there when I arrived, but he got there about an hour later and we taped the interview, sitting at his desk. He now has a medium-sized office which he shares with lobbyists from a couple of other organizations, right across the street from the Capitol. The front window is a one-way mirror. He can see people on the street, but they can't see him. Since most of the people who pass are office girls, it's a pleasant place to work.

The following interview is verbatim except as follows: The grammar has been "cleaned up" when it detracted unnecessarily from the sense of the statement, and the order of questions has been changed in a few places to put related topics together. Material germane only to California has been deleted, as have redundancies, irrelevancies, and references to people not named. Russ quite often uses the first person plural (we and us) when in fact he is speaking only for himself. I had a strong temptation to "fix" this editorially, because the plural often carried with it an implication that is simply false, but I resisted the temptation. You will have to handle that yourself.

Ron: Russ, what was your profession before MORE?

Russ: In 1954 I went to work for the U.S. Civil Service and worked at McClellan Air Force Base. I worked there until 1959 when I went to work for Aerojet General Corp. in Sacramento. During the latter part of my employment with Aerojet, I found that I had time to devote to some of the other aspects of motorcycling besides riding. I started attending some of the public meetings and legislative hearings that were occurring at the various levels of government. In 1968 I went back to the Civil Service work at McClellan. I had a pretty good job there, (with) lots of time on my hands, so I started writing a few things. I was very much into motorcycles. I found I was getting more and more involved in it all the time and had more time to attend those public hearings and so on.

Ron: Is your formal training in engineering?

Russ: No. My formal training, Ron . . . it's funny. I think I have something like 6½ years of college and still don't have a degree. I started out as a music major at Linfield College in Oregon. Later I transferred to the University of Oregon. I switched my major somewhere in there to writing and literature. Then still later I changed my major to business administration.

Ron: It's been rumored that it was a major illness that actually plunged you into MORE. Is that true or apocryphal?

Russ: Well, let me give you the facts. In the process of taking (a routine) physical, the doctor discovered I had a malfunction of the ticker. It was a kind of strange malfunction in that the heart would just quit beating for a time. They sort of rushed me to a heart specialist. When I asked him if it was serious, he told me, "Well, I can give you one chance in ten of making it to the waiting room on your way out. This is the fifth case that's been reported of this particular thing and two of them died almost immediately, one of them lasted almost six months, and one lasted almost four months." But they were playing with some medication and they asked if they could play guinea pig with me. The medication worked. At the time that this happened the doctor told me I'd never work again, that I might as well consider myself more or less a vegetable for the rest of my life. When you're in that situation and you don't know whether you're going to live past the next breath

or not, you start looking at things and trying to put them into their relative value. I thought, well, yeah, I kind of dig bikes. I wanted to do something with bikes that I could probably handle without too much strenuous involvement. At first I seriously considered opening a motorcycle wrecking and salvage yard where I could just sit, and my boys and I could tear bikes apart and sell parts to people. We're all pretty good motorcycle mechanics. I had the tie-ins for picking up the salvage bikes from the insurance companies and I had it all pretty well nailed down. But even though it sounded good, it just didn't quite gel. I started getting better in the meantime, well enough that they let me go back to work, and a few months later they told me I could start riding again, if I wouldn't compete. If I'd just ride and enjoy myself without exerting myself.

Ron: How did MORE start?

Russ: Maybe I can tell you just a little bit about the background. For 30-some years I'd been sitting around the back rooms of bike shops drinking beer and talking to bikers and everyplace you went everybody said, "Hey, man, one of these days we got to get organized." As far back as you can remember bikers have been saying that. And when I'd go to these hearings and I'd stand up and I'd make an impassioned plea on the behalf of a trail bike club that I belonged to, no matter how logical it was, they'd ask me how many people I represented. I'd say 50 or 60 or 80 or whatever, and then the guy sitting next to me would stand up and say, well, he represented the 80,000 members of the Sierra Club and in their opinion there wasn't any place in the world where trail bikes should be allowed, and the guy sitting next to him would stand up and say he represented a half million Boy Scouts in California and he concurred with the man from the Sierra Club, and then the guy from the Horsemen's Association would stand up and say he represented 345,000 organized horsemen that didn't believe in motorcycles, etc., so I thought, well, maybe we ought to start getting organized like we've been talking about for all these years. And I thought that what we really need is a good, first-class, professional lobbyist. I had no intention then of quitting my job with Civil Service. It was a good job. I had 360 people working for me, and really nothing to do except just sit and wait for the whistle to blow so I could go riding. At that time we estimated there were about 2 million motorcyclists in California, and I figured, well, if we could get 5 percent of them to kick in a buck a year and we didn't do anything with that money except just put it in a big pot, that's a hundred grand a year. We could buy the best lobbyist in California. We could write our own ticket and really have everything going for us. If just 5 percent of the bikers would kick in a buck a year. So, that's where the idea came from. We kicked it

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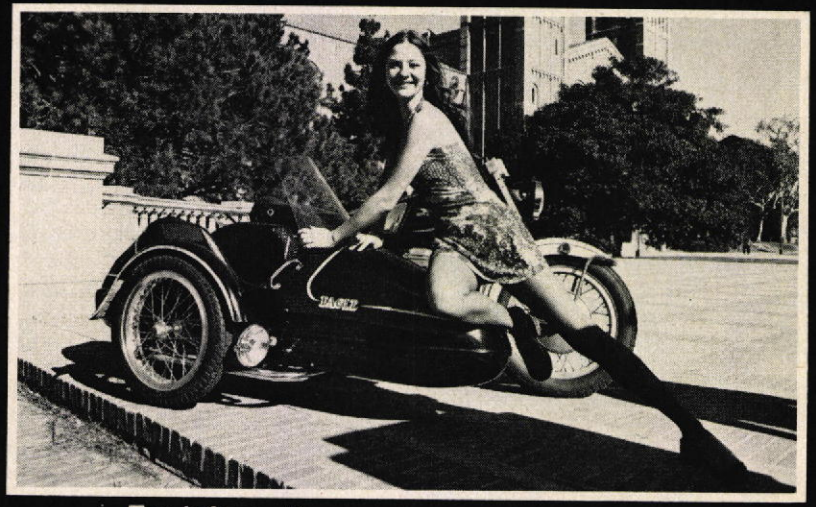

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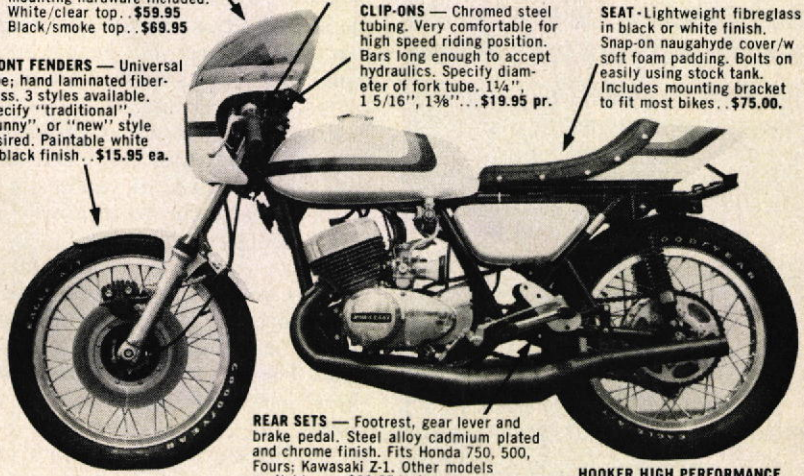

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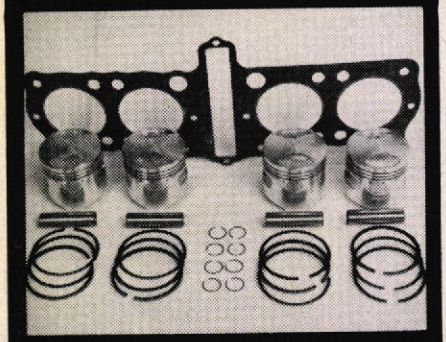

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off on the 25th of August in 1969. From then on I went out every weekend to races, enduros, every place I could possibly go, shoving pieces of paper under windshield wipers to let people know about this new association we had going. I was in and out of bike shops, I had my kids doing it. We worked at it night and day and at the end of four months on the first of January, 1970, we had exactly 240 people who cared enough to put in a dollar. And some of those were four or five members of a family, mostly from the trail bike club that I started out representing in the first place. So, it was kind of sad. We were beginning to run up against it because the minute that we took the first dollar in and said we're going to have a lobbyist, we had to have one . . .

Ron: You're not going to hire one for that kind of money!

Russ: Yeah, that's the position I found myself in. I figured I had to kind of take over and handle the lobbying duties until we could afford one. We're five years down the stream and we still can't afford a lobbyist.

Ron: So you're the lobbyist. Do you have to have any license to be a lobbyist here?

Russ: The answer is no, you don't have to have. However, there are some rules. If you lobby and you accept money or remuneration for your lobbying efforts, that puts you in the category of a professional, and you do have to register and file reports with the State showing exactly how much you made and how it was spent: how much on telephone calls, how much on travel, how much on gifts, and this sort of thing. If you do not accept remuneration, you don't have to file. I can qualify for that last category because we've never accepted any remuneration for any of my lobbying efforts, on behalf of MORE at least. So, I can qualify. (But) there is an advantage to registering, and that is that you get your picture and your name printed in a little index that goes out to the legislature. If the legislators have any questions on, say, motorcycling, they can look at this index and find out who the lobbyist is. If you're not registered, of course they have no way of getting in contact with you.

Ron: Can you tell me a little bit about just how you work on these things, what your procedure is? First of all, how do you become aware of a bill?

Russ: The State of California puts out three massive documents, on a daily, weekly, and biweekly basis, and in these documents is every bill, by number, that has been introduced and its history, from beginning to end, the actions that have occurred and so on. Every bill, of course, is printed, and if you have $400, you can sign up for a bill service that gives you a copy of every bill and every amendment and so on. We've never had the $400, so we rely upon the weekly history, which tells us more or less what the bill pertains to.

Ron: It's *after* bills have been introduced that you become aware of them usually?

Russ: Well, not always, Ron. This is a real bucket of worms. If (a legislator has) a bill that involves motorcycling directly, he will usually contact us beforehand and say, "Hey, does this meet with your approval?" or whatever. I say that usually happens. But if he has a bill that says "all motor vehicles shall . . ." without an exception for motorcycles, that sort of thing, then they usually don't think to ask us. I'd like to think that somebody would contact me on every bill that involved us, but I know they won't, so I watch the histories to catch the ones where they don't contact us.

Ron: Let's say that a bill has been introduced in the Senate pertaining to motorcycles and it doesn't sound like it's a good bill to you. What is your next step?

Russ: Well, at that point you start massaging the subject a little bit. You look at it and try to figure out what it is they're trying to do. Is this something that will hurt us or not? Is it good for the public in general or is it bad for the public? Presume that what they're trying to do might be good for the public—and you have to be aware of that because if it's good for the public it's probably going to get passed—okay, so you come to that conclusion and you (also) say, yes, it's going to hurt motorcycling or some facet of motorcycling. Then I start looking for an alternate answer that would still give the public what they need but that won't hurt the motorcycles. Sometimes you have to find out who sponsored the bill, who got the author of the bill, the legislator, to introduce it. The Sierra Club has legislators introduce bills in their behalf, just as I have legislators who introduce bills on our behalf. So, if we deduce that, say, the Sierra Club is behind this, well sometimes we'll meet with the author and a representative from the Sierra Club and we'll sit down and hash the thing out and maybe come up to some sort of a logical solution that's compatible with both our interests. And if that's done, then we can support the bill, the Sierra Club can support the bill, and the author is as happy as a bee because nobody's going to be climbing his fame on that bill.

Ron: Ordinarily, then, you try to come up with an alternate solution before you go after the guy who wrote the bill?

Russ: Well, yeah. If you get to talk to some of these legislators for more than a minute or two at a time you're lucky. Sometimes it's a matter of just standing and waiting on the floor until you see him step on the elevator and you step on with him and maybe you've got the distance between the fourth floor and the fifth floor to convince him that his bill is good or bad or to suggest how it should be changed. So you've got to be able to speak pretty fast, and it's not just enough to say, "Hey, I don't like your bill." If you can say, "Gee, I've got problems with your

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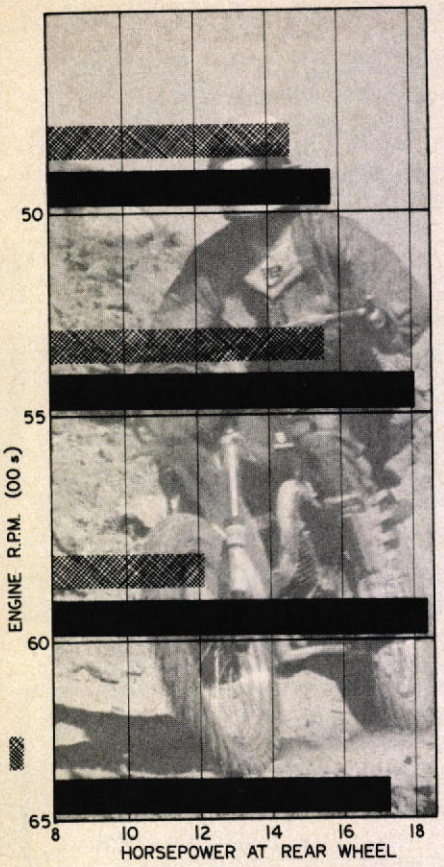

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bill, but I know how we can correct it and still provide the solution you're looking for," well then he'll probably invite you into his office to sit down and hash it out. Most of the legislators are not anti anything to speak of. They'd rather come up with apple pie and flagwaving and other good-type legislation all the time that everybody can get behind. They're looking for it. But they know sometimes some of us are going to get hurt from the fallout.

Ron: So that we don't have any misunderstandings. There are some legislators that you and I know are puppets. They're run by the oil industry, for instance. You can't deny that their only concern in the legislature is what's good for the oil industry.

Russ: Okay, that's possible. Looking at it on a national scale I can say that's even more possible. But the point I'm trying to make is that I don't know of any legislator across the street in the State of California that answers to what his aide or what the committee consultant tells him. He has to be convinced. You have to work with him, this sort of thing. We're very well recognized in the legislature now, and it's a really fine feeling. I take a lot of pride in the fact that I can walk through the halls at the Capitol and not only do quite a few legislators know me and speak to me by name or have something to say, but (also so do) a lot of lobbyists. So there came a certain respect there. This is something that only comes through dependability, responsibility. The worst thing you can ever do is tell a lie. I made it a point right from the beginning not to even guess at answers. If I don't know the answer to something, I just say, "Hey, I think this is the answer," maybe I don't even hazard that.

Ron: Russ, can you give me a couple of examples of cases where you are morally certain that you were able to achieve something positive in the way of legislation where it would have gone the other way had you not been around to do something about it?

Russ: Well . . . I don't think for a minute, it's never entered my mind, I wouldn't even consider the thought, that I alone as one individual can influence legislation. Perhaps (I can) introduce some element of logic or something like that, but in this particular business you have to represent a group. Let's take the two Z'berg bills of 1971, AB 2985 and AB 3069. Both of these bills in essence would have prohibited all off-road vehicle (activity) in California. 2095 specified a $15 fee every two years for a license and all the money was to be used for enforcement. It also would have confined you to two or three established places where you'd be allowed to ride in the entire state. AB 3069 listed, I think, 26 different places that you couldn't ride or operate an off-road vehicle, and there was really nothing left. Those two bills in themselves would have killed off-road riding per se. I was up on this end doing a lot of table-pounding, appearing at the committee hearings and speaking for the motorcyclists. But if the motorcycle press hadn't picked this up and publicized it and if the motorcyclists out there hadn't written letters and sent telegrams and made telephone calls to their elected representatives, it wouldn't have done a bit of good. I don't want to even imply that I personally or that MORE took the credit for this. We took the credit for being the watchdog, representing the motorcyclists and being their spokesman. But if there hadn't been a big hue and cry and a clamor on the part of the people who would have been offended by this particular legislation, it wouldn't have done any good.

Ron: You quite often solicit letters for or against a particular bill. How many letters does it take to impress a legislator?

Russ: Any time he gets five or six letters on the same subject—this is at State level—somebody starts calling it to his attention. Form letters, petitions, that sort of thing, don't mean a thing because anybody will sign them without even looking at them or understanding them. What does some good is even a postcard with a single sentence on it that says, "I dig motorcycles. Vote No on AB 2645." If it goes on to explain why, that's great. But the part that he really sees is that he got six letters telling him to vote no on something, so he's got six people out there, constituents, who are interested. The legislator knows that most people are so apathetic about the things that affect them that they don't bother to write letters, and so the rule of thumb is that every letter that a legislator at state level receives is worth a thousand votes at the polls. A legislator who won his last election by maybe 10 or 12 thousand votes who gets 10 or 12 letters on something suddenly gets interested.

Ron: So, in other words then, a single club could significantly affect a piece of legislation if they sat down and wrote a bunch of letters at a club meeting.

Russ: Exactly! This is what I've advocated to these clubs every time I go and talk to them. They should set somebody up in the club, make it a new office, and call it the legislative liaison or whatever. He's the guy that gets the newsletters that we send out. If it's a family club we suggest that all the wives go over in the corner sometime during the meeting and write two letters each, one for their signature and one for their husband's signature, and (an extra one to) cover the single guys in the crowd. Before anybody gets out of there that night he signs a letter and turns it in to the club secretary, who puts them all in an envelope and gets them in the mail the next day. That one club can influence the legislator who represents their district in 15 minutes' time.

Ron: Haven't you had some bills where you have simply been able to point out to the particular person that something wouldn't work out very well?

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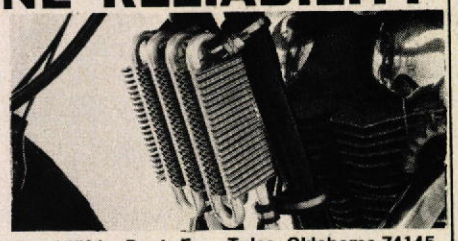

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Russ: There's been many, many of those, and we don't even bother to tell people about most of them. For instance, Mr. Z'berg introduced a bill at the height of the energy crisis that would have prohibited the dispensing of gasoline into any cans over one gallon in size, and the transportation of gas in containers between one gallon and 120 gallons in size over the highways. Well, it's kind of hard to haul your extra gas for an off-road vehicle without transporting it on the highway, and you can't go very far on one gallon. We pointed this out to Mr. Z'berg. So we got the bill reworded and it now says that you can't transport gasoline in anything "other than approved containers," which is a good law. There's been a lot of these things. One of my favorites was (a bill introduced by) Senator Beilenson, I believe in about '70 or '71. It was an anti-litter bill, and while all motorcyclists, being conservationists as they are, could support an anti-litter bill, there was one element in it that was kind of a bummer. It said, "Every motor vehicle manufactured subsequent to 1968 must be equipped with a permanent litter container capable of holding ½ cubic foot of litter; the container must be made of a non-disposable material and firmly and securely mounted to the interior of the vehicle." And so I called the good Senator the next day after I saw the bill, and I said, "Senator, I've been riding one of these things for about 35 years and I still haven't been able to figure out what the interior is," and he says, "Oops, I goofed," and the next day there was an amendment to the bill that said, "All motor vehicles except motorcycles and motor-driven cycles . . ." There's a lot like those where we just get kind of sucked up in a kind of a general classification or category. It's just a case of calling someone's attention to it.

Ron: Can you give me a couple of cases where you have tried to influence something and haven't succeeded, and tell me why you haven't?

Russ: In the five years we've been active, watching from 300 to 400 plus bills per year, we've only had what I consider to be two losses in that time, and even those are partial. When it was introduced, the mandatory headlight law was retroactive. It just said that motorcycles operating on streets and highways must have their headlights on. We got with the author and we explained that a lot of these older bikes just didn't have the electrical systems, the batteries, and so on, to operate a headlight all day long and still have the thing effective or even operable at night. So the bill was amended several times, and the way it eventually came out, effective 1 January 1976, every new motorcycle sold or offered for sale in the state of California must be so equipped that the headlight comes on automatically when the engine starts. So we have a nonretroactive mandatory headlight law beginning with the

1976 models. (But) a lot of these enforcement officers are going to look at a bike and say, "Aha, he's got his headlight off," and stop him and find out it's an earlier model. There's going to be some harrassment on this. We tried to point this out. There was a reason that we lost that bill and I'd rather not try to get into it because it involves personalities.

One of the bills that I feel most strongly about, that we've tried year after year to get passed, and which everybody says is a good idea—it's a motherhood, apple pie, and flagwaving type bill—is the one to outlaw neckbreakers. I'm talking about unmarked chains, ropes and cables stretched across roadways and pathways that not only decapitate people but physically tear them apart sometimes. I've got a personal thing about this. I just really want to see these things outlawed. Last year we finally had everything ready to go but the legislature wanted to see some examples, you know, documented cases. But try as we might, (we could not document them). We had teams researching, I had articles appear in all the major publications, and newsletters, all asking people to send us information on this. If we could have come up with just half a dozen factual cases, we could have got that bill through. Only one person responded to our several thousand requests.

Ron: What is the biggest problem you face?

Russ: The biggest problem we face, and always have faced, is financial support. This is kind of hard to say, but boy, there are times when there is an important meeting somewhere that I really want to attend and should attend but, dammit, I can't afford the gas to get there. That's a hell of a note to say that. The thing that makes me feel bad about it is these bikers out there and members of the organization that joined to provide the funds presumably for me to make a lot of those trips and do those things. But what do you do? There've been times when I considered going out and siphoning gas out of a school bus, or something, you know, in order to get enough to get someplace. That's terrible! That's what I'm talking about—lack of financial support.

Ron: How many members does MORE have now?

Russ: It's hard to say, I can't tell you, at one time when we charged $1 *(through Spring 1973)* a year per member, we might have a family of five sign up as five individual members and assign each one a number.

Ron: Just a rough estimate.

Russ: I wouldn't like for that figure to get back across the street, but I would say that at the present time, with our family memberships where the whole family has signed up under a single membership, that we probably have in the neighborhood of maybe 5,000 members. That's like maybe 1,000 families with five each.

Ron: Then at the present time you don't represent a large percentage of motorcycling, at least on the basis of paid dues.

Russ: I think this points up what I'm saying about lack of interest and lack of involvement. There's 2½ million motorcycles in this state. Five thousand of them are holding the line for all the rest.

Ron: I want to ask you a couple of tough questions now. How do you know when you take a position on a particular bill that you're speaking "for motorcyclists." In fact, how do you know if you're speaking for MORE members?

Russ: Well, most questions that come up can be answered just on the basis of simple knowledge. For instance, a litter container that holds half a cubic foot of litter. Okay, you can buy that? A mandatory headlight law. All right. Maybe we might not want to use that as an example. But bikers, road riders and so on, in general, will turn their headlight on if their electrical system will sustain the lighting system and so on. They're smart enough to do this on their own. You can pretty much presume that a mandatory law like this in essence would not be acceptable. The same would be true of a mandatory helmet law. If nothing else, you can get this information from just seeing what has happened in the other states. When these types of laws are introduced, everybody bitches and complains. So we're pretty well guided on those things. When you get to a controversial subject, there are a lot of pros and cons. Sometimes your infinite knowledge of the subject being much more infinite than others' can possibly be, you have to make a decision that you feel is in their best interest, that might not be a popular decision with all of your members. But generally when you get into a controversial subject, I try to get it out in the form of a newsletter to the members and hopefully to the rest of the motorcycling population through the trade media and seriously ask them and request them to send me comments on this. The green stickie thing is a very unpopular subject, a very unpopular law, and yet we supported it from the beginning for many reasons. We know that eventually it's going to be the salvation of off-road motorcycling.

Ron: Let me ask you, Russ, since motorcyclists are not a homogenous group—you've got road and competition riders, as well as industry—how do you resolve conflicts between various segments?

Russ: Well, we don't have too many industry members or dealer members. But those that we have, that were smart enough to join MORE in the beginning, they're smart enough to understand that what's good for the riders is going to be good for their business. Maybe that's a pretty heavy statement. But if the rider's happy, he's going to buy more bikes, he's going to ride more, he's going to buy more accessories, and that's going to help the businessman generally. You have to weigh this sometimes in terms of, if you're talking equipment modification, who's the ultimate payee or payor. (Who bears) the ultimate cost of modification? This was one of the arguments we used on the mandatory headlight situation. If these manufacturers have to redesign and retool to build an elaborate electrical system to sustain a constantly-operating headlight, that sort of thing, the price increase is going to pass on to the rider. If they can do it and hold the price the same, the riders would be all for it, but if it's money out of their pockets, it's like buying a smog control device.

This is what we did with the bills. First, we've got the competition riders and the dirt riders excluded. That left only the road machines. We conferred with the industry and found out what it would cost, what the increased cost per machine would be to the rider, we polled the riders on it, we polled the dealers on it, polled the industry, and the decision was almost unanimously that nobody wanted a mandatory headlight law. And so that isn't a good example.

Ron: Quite often industry's goals and the riders' goals and the consumers' goals are not the same. You are essentially wearing two hats, and you are going to have to resolve this problem some way or another. We have to face the fact that motorcycling is an industry and the rider is the consumer.

Russ: I think the best answer for this, Ron, the simplest answer, is that I am working for the industry right now for only one particular piece of legislation, to do only one particular thing. *(This is the noise thing discussed in the introduction. Russ was not at liberty to discuss it.)* It's something that (ordinarily) I probably wouldn't attempt to do, even though it helps the rider, because I feel it's an industry sort of thing, not a rider's sort of thing. However, they are willing to hire me as a professional lobbyist to represent their interests on a particular piece of legislation. Now there's nothing blanket about that. If they wanted me—if there were any add-ons or if they wanted me to do something else for them, it would be on a piece-by-piece basis, item by item.

Ron: In other words, you're going to evaluate each thing that they ask of you.

Russ: Or each job request. I'll evaluate it. If there's a conflict between the riders' best interests and the industry's best interests, I won't do it—I won't touch it. They can find somebody else. If I can handle it without that kind of a conflict, I'll be glad to work for them. I'm not on a retainer to them in any way at all.

Ron: Why did Yamaha give you a motorcycle?

Russ: I don't know. Jim Potter came in here and he said, "I understand that you don't have a motorcycle," and I said, "I've got a whole garage full of them, (but nothing I can ride on the street)," and he said, "Good God, anybody that's working for the industry the way you are, would you ride it to work and things like that

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if you had one?" I said, "You betcha, it would give me no more pleasure than pulling up here at the office and running over a couple of legislators with my motorcycle every morning and letting them know that I'm not a professional lobbyist, that I'm a rider." And he said, "What kind do you want?" I said, "I want a TX500" (Yamaha). Couple of days later he called and said, "Call Jeannine Black (at Yamaha International)." She said, "We've got one here if you need one. Do you want us to ship it up or do you want to come get it?"

Ron: Far out.

Russ: I presume that each year they'll want to give me a new one. But I've been so much in love with that thing if they ever try to take it away from me I'll buy it.

Ron: Have you been riding it to work?

Russ: Yeah, I've ridden it all week but I had all this stuff to pick up this morning so I had to bring my truck in.

Ron: How do conventional politics fit into the scheme of things? I think you're a fairly avid Republican.

Russ: I don't know where everybody gets that opinion! *(Laughs.)* A lot of people seem to think I'm an avid Republican.

Ron: It might be from the vehemence with which you attack Cranston and Tunney.

Russ: No. Let's just come back to that in a minute. Let's put it this way. I try my best, honest to God, try my best not to remember which party a particular legislator is associated with, because I like to go at it impartially without party politics involved and that sort of thing. There's only one circumstance under which I ever consider this, and I do consider it frequently, and that is that if Moretti (Democratic Speaker of the House) is fighting with Reagan (Republican Governor), I'm not going to ask Moretti to be the author of a bill I want to get through. Reagan might veto it. But if we have a Democratic Governor, I would probably be working with Democratic legislators, and they would be carrying some of our legislation.

Ron: When I'm reading your columns, your dislike of our two U.S. Senators, Cranston and Tunney, comes through very strongly.

Russ: I presume because of your comments about my being an avid Republican that they're both Democrats; I'm sure that Cranston is. But honestly, I wouldn't bet on it. My dislike for these two U.S. senators stems from one thing common to both of them. They have absolutely no apparent concern for motorcyclists or off-road vehicles. I have had quite a bit of correspondence with them and maybe they're misled by their aides or assistants or something or maybe they've got a bunch of dolts working for them that really don't understand the situation, but the answers that they send back are very obviously standard replies that usually aren't even germane to the subject. They don't even care enough about our form of recreational sport to give us a sincere answer

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or to even show any concern. I can show you letter after letter right here in the files that would support that. Therefore, I could support H. L. Richardson (Republican contender for Cranston's seat) because Bill is responsive, nobody owns him to the best of my knowledge, but at least he listens and he's genuinely interested. He's come by the office and sat down and said, "What are your problems and how can I help you?" And when we told him, he's given us the kind of support that I feel we should have.

Ron: I'm going to switch rather abruptly here. Chuck Clayton (publisher of *Cycle News)* has sort of acted as your "guardian angel," but sometimes I gather his support has been at least as embarrassing as it has been helpful.

Russ: I wouldn't refer to Chuck as our guardian angel, but he sure does a hell of a lot to promote what we're doing and get people behind us. He does his best to increase our membership. I don't know whether he'd want this mentioned or not—you might want to clear it with him first *(I didn't.)* he has bailed MORE out financially a couple of times when I . . . let me put it another way. He didn't bail MORE out, he bailed me out, because I'd spent the house payment for about six months to keep MORE going and was about to lose my house and he loaned me $2,000 for a year, which was over two years ago and which I still haven't paid him back. And the second time was this spring when MORE was in desperate financial straits, like we couldn't even get a newsletter printed and couldn't buy the postage to send it out and so on, and he made a $500 donation at the same time he wrote my obituary.

Ron: What was your reaction to your obituary in *Cycle News?*

Russ: I don't know. Very, very mixed emotions. I couldn't believe it at first. Chuck has apologized to me many times since then and I know he meant well, and if we hadn't been such good friends, I don't know what I would have done, if he really didn't have our best interests at heart. With everything considered and so on, you can't even for a minute dislike the guy.

Ron: When you say MORE is not Russ Sanford, it's an incorporated body, what would happen if you suddenly decided that you didn't want to do it any more or you couldn't do it any more?

Russ: I suppose the Board of Directors would get together and figure out what they were going to do, whether they were going to fold up the tent or try and find somebody else or what.

Ron: Who's on the Board of Directors?

Russ: Jim Manning, Mike Corteen, Doris Sanford, and myself.

Ron: Is Jim Manning still active in the organization?

Russ: Jim is vice president, and we tried to make a go of the San Diego office and financially it just failed to function. We tried to make a go of the L. A. office and it failed to function financially. So Jim found himself in a position where he had to find some steady employment to keep himself going. At the present time he's not too actively involved.

Ron: MORE made one attempt to go national. Can you tell me briefly what happened to that?

Russ: Well, that was prompted by many things. We know that we've had a good program and been successful in representing motorcyclists in California. MORE is an absolute fantastic success in every respect except financially. So with that, and knowing there was this need in other states and so on, we were really ripe a couple of years ago to expand into a national program because we offer something that nobody else offers. The only thing that was really required to get off the ground was financial backing; a group came to me and they purported to have the financial backing that it would take to get a national program together. I think that it was the program that this country's motorcyclists wanted, needed, and always expected to have and have never had. But it's just like everything else. When push came to shove, everybody wanted to set back and see. Nobody wanted to jump in with their financial support. It just withered on the vine and died from lack of support. It's a sad commentary on motorcyclists in general, but let's face it—it's just tantamount to the situation in California—maybe 5,000 motorcyclists are carrying the ball for 2½ million motorcyclists.

Ron: Isn't it true that the people who were intending to promote this thing were thinking about turning it into a profit-making organization?

Russ: Well, profit-making in the sense . . .

Ron: In other words, make it into an Auto Club sort of operation?

Russ: Yes, that sort of thing. It was being put together as a nonprofit corporation, that's the way it was designed and so on. There's two kinds of profit, and something that I've perhaps learned from that, probably knew it all along and I just hadn't had it driven home so hard, that there's nothing wrong with being paid properly for the services you provide. From that standpoint, it was designed to be profit-making. Nobody was expected to work for nothing, which is what I've done for MORE for five years. So, it was different in that respect. But I don't see anything wrong with it in that respect. I don't think we should look at it in terms . . . it was never intended to be a rip-off of any sort.

Ron: I didn't mean to imply that.

Russ: I had heard this comment before. A lot of people feel that this was the reason that we pulled out. I pulled out because it turned into a rip-off, because the people were content to take what memberships were coming in and provide nothing in return. They couldn't provide

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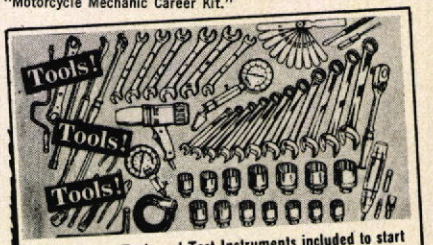

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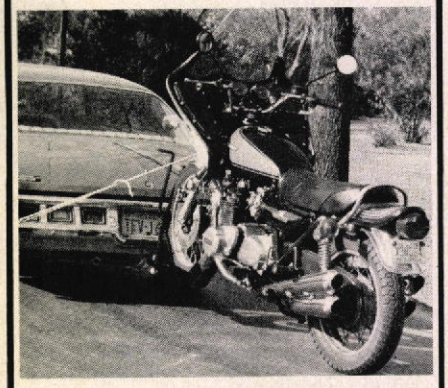

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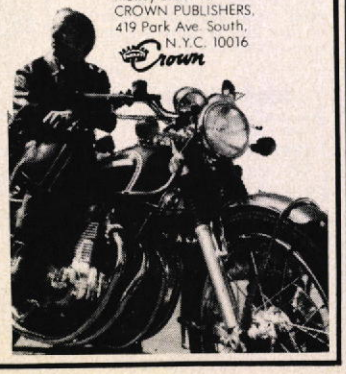

anything in return because they didn't have the money to pay for the things that they had promised to provide. This is not the way I put it together. This goes back to what I said earlier, that the minute we took in the first dollar I knew that we had to have a lobbyist, and that was really the only thing that we promised in the beginning. The thing is that if I tell somebody I'm going to do something, by damn, I'm going to do it. The national association, the people there, got to the point where they said, hey, there's no money to do these things, we can't do them. And that's the point where I said, "We've got to do them or we've got to get out of the business and quit telling people we are going to do them." If you want to call it a rip-off, that was it. However, in that respect, and I'd like this to become a matter of record if we're going to talk about that subject, Manning and I between us got a list of every person from California that joined the national program and—there was a total of 43 people in California—we took it upon ourselves to reimburse those people through one of two actions—I gave them the option of receiving the equivalent in terms of the membership in MORE of California. For instance, if a person that joined the National for say, $23, we gave them a three-year membership in MORE of California at $10 per year, $30 in exchange for their $23. If they joined for $18, then we gave them two years, $20 equivalent. We also offered to refund their money, and only one person insisted upon a refund of his money, which I refunded just two weeks ago, although we never saw their money. *(The membership fees were paid directly to the MORE America office in Arizona.)* I might mention that I diverted a lot of personal funds and a lot of money I really didn't have in the form of personal credit into that national program, which were never reimbursed. I went down the tubes to the tune of about nine grand, so I got hurt about as bad as anybody, I guess.

Ron: Let me ask you one more devil's advocate-type question. I think the most unpopular thing that MORE has done is throw their support behind the green stickie program. *(The green stickie program in California is an off-road vehicle registration program. A person must purchase a sticker for each off-road cycle he owns. It is good for two years and costs $15. It entitles him to ride on state- and federally-owned land but not on the highways. Every cycle must have either a license plate or "stickie.")* Can you explain why you supported the green stickie in the face of so much opposition?

Russ: I guess what you're really asking me to do is justify our position. Yes, I do support the green stickie program, always have. That's a personal thing, and the majority of our members support it.

Ron: You say the majority of your members support it. How do you know that?

Russ: Because we've polled them through

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our newsletters and the replies have come back. But to justify our support of the green stickie program, we have to go back to 1971 at a time when off-road vehicles were very, very unpopular with the preservationist-type groups, when the big burning issue, state, federal, and so on, was environmental protection. The two bills that I mentioned earlier, that would have prohibited off-road vehicles had they passed, were introduced at that time. And I can assure you, as certain as I'm sitting here, that one of those bills would have passed, had we not had an alternate bill of our own to offer as a substitute, one that we could gain support for and get support behind. This was a sort of handwriting-on-the-wall situation with me; I could see this coming for several years, attending the hearings and so on. We had actually tried the year before, 1970, to get the (green stickie) legislation introduced. It was introduced, but the legislator who was carrying it died in office and the bill died with him. So we turned around and reintroduced it in a somewhat modified version in 1971. At that point in time, the Federal government in the form of the Forest Service, BLM, Bureau of Reclamation, and so on, right on down the line, all the various agencies that were in a position to administer public lands were also entertaining thoughts of imposing a use fee, sort of a sticker-type use fee, on all off-road vehicles used on the lands that they administered. If each of these agencies had had their way, you would have had to purchase a separate type of sticker issued by each of the separate agencies on your off-road vehicle before you could cross or operate on the land under their jurisdiction. We were looking at a situation where anyone might have to buy as many as three or four licenses in order to just make a single day's trip.

Ron: Basically, then, this is a case in which even though you knew you were taking on something that was going to be unpopular with a lot of the riders, you . . .

Russ: It was the lesser of the evils . . .

Ron: Yeah, you did it because of your own expertise in the matter, so to speak. You knew what was coming.

Russ: Yes, we knew what was coming. This (the green stickie) bill did two big things for us: It took most of the money and gave it back to us, and it also exempts us from personal property tax (on the vehicles). Now, in Sacramento County, the personal tax rate is $12.26 per thousand. Every bike I've got, if I took them all, they'd average out with a value of about $1,000. So, I'm saving $12.26 a year. *(His arithmetic is incorrect, but this is what he said, so we let it stand.)* I get a couple of letters a week from people who read in their local paper that the local sheriff just bought two off-road motorcycles to enforce the laws and the money was purchased from the green stickie money. They just get irate and say, "Why is our money being used that way?" Out of that two-year $15 fee, $4 goes back to the city and county of registration. On my bike, $4 goes to Sacramento County. We can't control how they use that money. It says in the law, "It's the intent of the legislature that that be used for carrying out the provisions of the program," not for enforcement. But, this money is an in-lieu tax, a substitute for a personal property tax. They can use it for enforcement, or the Board of Supervisors can vote themselves a pay raise with it, or they can do anything they want because it's General Fund money. But that's only $4 out of the $15. Okay, of the rest of it, $5 goes to the Department of Motor Vehicles for administration, $6 of it goes into the Off-highway Vehicle Program. That $6 cannot be used for enforcement or anything else. It can only be used to build these facilities. The only thing that any of our members might find fault with—and I find fault with it too, constantly—is what appears to be an inadequate response on the part of State Parks and Recreation to provide the facilities that are supposed to be coming. These are coming, but it's slow. It's taken a long time to get some of these things off the drawing board. Some day it will be here and we can all sit back and rest easy and say it was worth the wait. Right now it's kind of difficult to do at times.

Ron: I have heard that an Off-highway Vehicle Code is coming in California whether we like it or not.

Russ: It's good, it will work for us.

Ron: Won't this stipulate speed limits and things of that sort?

Russ: No. It will have some equipment requirements in it, such as headlights and taillights after dark. The section on brakes requires adequate brakes to stop in a certain reasonable distance. That's about all with respect to equipment. It'll have a statement in it probably with regard to children who are not licensed with an operator's license. The state agencies and federal agencies have been very concerned about the liability aspect. What I wrote into the Off-highway Vehicle Code was that these operators that don't have an operator's license and so on, their liability is the responsibility of their parents.

Ron: I gather that you are in favor of the Off-highway Vehicle Code.

Russ: Well, it's coming. And so what I've done is I've written one that we can all live with and proffered it to the state agencies and said, hey, here it is. So far they like it; it seems to get them off the hook for an Off-highway Vehicle Code.

Ron: Let me ask a hypothetical question. Suppose that a majority of your members wrote in and said, hey, we don't want this. What would you do?

Russ: I suppose we'd be opposed to it. But the thing is that I know, just as sure as I'm sitting here, there's going to be an Off-highway Vehicle Code, and it's a question of, will off-highway vehicle enthusiasts write it or does the CHP (California Highway Patrol) write it.

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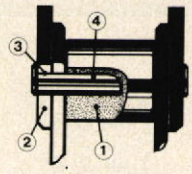

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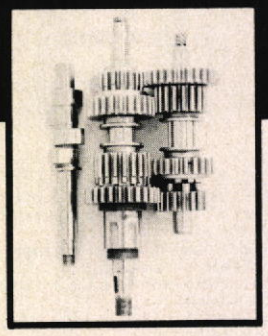

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Ron: How does your announcing fit into your program? Do you just have to do this for extra funds or is it something you like to do?

Russ: As I said before, we were trying to get out and get exposure. I do it for clubs and groups like this free. When I work with a promoter, I charge a fee, which goes into MORE anyway. My wife usually goes along and she is the head scorekeeper, lap checker, or something like this. She keeps her take, which is the way it should be, I guess. But I do kind of enjoy it.

Ron: Has anybody ever seriously introduced a piece of legislation about seat belts for motorcycles?

Russ: They have in other states, but not to my knowledge in California. I don't know that it's true, but somebody supposedly fitted a motorcycle with a seat belt, and asked a legislator who had advocated seat belts to sit on it and strap the seat belt, which he did. They had the motorcycle sitting on the lawn of the state capitol, as I understand it. When he got strapped in, one of them just reached up with his foot and pushed the motorcycle over. They ran the risk of breaking the legislator's leg, but at least he got the point, and that was the end of the proposal for mandatory seat belts on motorcycles. I wish I could verify that it's true. ***CG***

TWO-STROKE COOLING

Continued from page 56

ments, and pretty careful ones, too. If the heads on your bike have parallel sides, you're lucky—all you have to do is measure the width of the heads and the front-to-back distance you wish the shroud to cover. If the heads don't have parallel sides, you'll have to measure the width across the front, the width across the back, and then the front-to-back distance, measuring from the points used for the first two measurements. See figure 2 for an illustration of these measurements.

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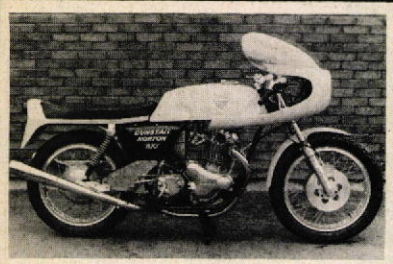

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prototype doesn't interfere with any vital components of the motorcycle, particularly the throttle cables. Make sure you can get a plug wrench into the holes, and also that you can get the spark plugs out. If not, enlarge or elongate the holes.

After the prototype has proven successful, buy the aluminum sheet for the shroud itself, about 14 or 16 gauge. If you don't have heavy tin snips, the hardware store where you buy the stock should be willing to cut it for you.

Bending comes next. I bent mine in a bending brake, but you may not have access to one. You can make a simple bending rig by clamping the aluminum between a two-by-four and a workbench with one or two big C-clamps. Clamp the short side of the piece under the two-by-four so that your bending line marks are at the edge, and bend the bigger section upward. After both sides of the shroud have been bent, try the shroud on your bike. Hopefully, its sides will be parallel to the head and close to the end fins. If they're parallel but too close or too far away from the head, bend them to fit. If, however, the sides of the shroud aren't parallel to the fins, or are more than ½ inch away from the outer fins, you get to start over. Take your time, make a good prototype, and this won't happen.

When the shroud fits, pick the locations for the mounting bolts; two on each side of the head should be sufficient. With the shroud in place, mark four places where, if holes were drilled through and into the fins, there would be enough metal on the sides to hold the bolts. On engines with narrow fins, you may want to cut threads through two fins. Drill holes *in the shroud* big enough to accommodate the bolts you plan to use. Position the shroud on the head again, and mark where the holes should be drilled in the fins. Centerpunch these marks gently (you don't want to break any fins) and drill with the proper size bit for the threads you are planning to cut. For ¼-20 threads, you use a 13/64 drill bit. Tap the hole, being careful to keep the tap perpendicular to the fin.

Position the prototype on the head once more to make sure the spark plug access holes are where they should be, then mark these holes on your almost-completed shroud. The holes may be cut with a coping saw inserted through a drilled hole, or a hole-saw of the proper size. File the edges carefully; your fingers will be working there every time you change a plug.

Mount the shroud with the bolts and lockwashers, replace the plugs, leads, and gas tank, and you're almost done. Make one last check of the shroud to see that it doesn't interfere with any part of the bike and you're ready to ride. And maybe the next time you're really wringing it out it on a hot afternoon, you won't lose that sharp acceleration, or that five mph on the top end. ***CG***

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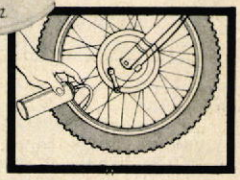

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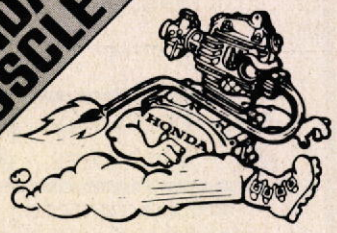

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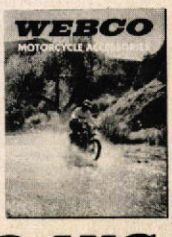

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